

AMERICAN

Cinematographer

SEPTEMBER

1960

35¢

The Magazine of Motion Picture Photography



College Film Makers

Page 552



How "The Golden Fish" Was Filmed

Page 558



VTR Aids Production of TV Spots

Page 554



"Pop-on" Effects For TV Commercials

Page 543

ALWAYS THE LATEST WITH NEWS OF NEW TRENDS AND PRODUCTION
TECHNIQUES IN ALL FIELDS OF MOTION PICTURE USE



From left to right, Andrew McLaglen, Director, and James Arness, star and Associate Producer, look on as Mr. Southcott checks the camera.

"FOR WIDE RANGE AND VISUAL ACCURACY... GIVE ME DU PONT SUPERIOR® 2 AND 4"

Says Fleet Southcott, Director of Photography for the top-rated CBS-TV show, "Gunsmoke"

"*Carmenowhere*," reports Mr. Southcott, "'Gunsmoke' has everything: interiors...exteriors...close-ups...long shots. It's got terrific range, too—scene as well as emotional. To keep our show tops, everything within this broad scope must

be translated visually for our audience. In striving for this result, I use Du Pont "Superior" 2 and 4 with great satisfaction."

"Superior" 2 and "Superior" 4 are just two of the fine Du Pont films for every motion picture need. These films—and complete technical data on them—are available through the Du Pont Photo Products sales offices below.



BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

Atlanta 16, Ga., 1757 Glenwood Dr. N.W.; Baltimore 34, Md., 45-47th Ave. (Berlin); Chicago 48, Ill., 6560 Touhy Ave., Edgewater Bldg.; Cleveland 16, Ohio, 26175 Center Ridge Road; Dallas 7, Texas, 1828 Oak Lawn Ave.; Los Angeles 44, Calif., 3792 Santa Monica Blvd.; New York 17, N.Y., 248 W. 11th St.; Phoenix 4, 301 E. Lancaster Ave. (Pike); Portland 1, Oregon 504; Wilmington 10, Del. 14 Canada: Du Pont of Canada Limited, Toronto.

SELECTION!



UNSURPASSED OPTICS for the ARRIFLEX 16

Arriflex 16 offers the widest selection of the finest lenses. The selection keeps growing — because the world's most successful portable professional motion picture camera inspires the greatest efforts of the world's foremost optical firms. Every lens in the Arriflex 16 system adds to this remarkable camera's rare versatility... from the 5.7mm extreme-wide-angle to the longest telephotos, the zooms, and the macros.



ARRIFLEX CORPORATION OF AMERICA
257 PARK AVENUE SOUTH, N.Y. 10, N.Y.



ARRIFLEX CORPORATION OF AMERICA
107 O PARK AVE. SOUTH • NEW YORK 10, N.Y.

Without obligation, I would like:

☐ DEMONSTRATION ☐ LITERATURE
☐ ON ARRIFLEX 16 ☐ ON ARRIFLEX 15

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

Cinematographer

ARTHUR E. GAVIN, Editor

NATION HUTCHINS, Editorial Assistant

CONTRIBUTORS: Herb A. Lightman, Joseph V. Morrell, Clifford V. Heston, Joseph Henry Frederick Foster, Udo Groot (Rome), Jean Belanger (Paris), Derek Hill (London)

Technical Advisors: Emory Pace, Dr. Harwood L. Simmons

Editorial and Business Office: 1792 North Orange Drive, Hollywood 28, Calif.
Telephone: HOlywood 7-2122

September, 1960

Vol. 41, No. 9

Feature Articles

CALIBUR CONTROL CENTER	328
CIVIL-COMPLEX ANIMATION	By Leon S. Rhodes 340
HOW STILL CAMERA CAN AID "FREE-LAUNCH" UNRUPE	By Ray Zager 343
SNOW COMES OF AGE	By John Finken 346
PROCESS FILM AS YOU SHOOT	348
FILMING "ALL THE YOUNG MEN"	By Herb A. Lightman 350
COLLEGE FILM MAKERS	By Charles Jaring 352
VIDEO TAPE SPEEDS PRODUCTION OF FILMED TV COMMERCIALS	By Joseph Henry 354
FILMING DEEP SEA FISHING	By Richard Cline 356
NOW "THE GOLDEN FISH" WAS RUMED	By Jean Belanger 358

Departments

INDUSTRY NEWS	516
WHAT'S NEW IN EQUIPMENT, ACCESSORIES, SERVICES	520
GADGETS AND SHORTCUTS	526
QUESTIONS & ANSWERS	By Walter Strong, A.S.C. 530
PHOTOGRAPHIC ASSIGNMENTS	By Marian Hubert 536
LITERATURE	574

ON THE COVER

GROUP OF PHOTOS represent four separate articles which appear in this issue: "College Film Makers," "Now 'The Golden Fish' Was Rumed," "Video Tape Speeds Production Of Filmed TV Commercials," and "How Still Camera Can Aid 'Free-Launch' Unrupe."

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc. 1792 N. Orange Dr., Hollywood 28, Calif. SUBSCRIPTION: UNITED STATES AND CANADA, \$4.00 per year; foreign (including Post American Union) \$5.00 per year. Single copies 25 cents, back numbers 45 cents. Single copies 45 cents, back numbers 55 cents. Advertising rates on request. Copyright 1960 by A. S. C. Agency, Inc. Second-class postage paid at Los Angeles, California.



bulletin of
advanced cinematography

AMERICAN SOCIETY
OF CINEMATOGRAPHERS

FOUNDED January 8, 1909, the ASC was established to advance the art and the science of cinematography; to encourage, foster, and strive for greater scope, excellence, artistic perfection and scientific knowledge in all matters pertaining to cinematography; to bring into closest consideration those leaders in the cinematographic science whose achievements in that field entitle them to membership in the Society; and to promote the interests of all who shall be called to membership in the ASC, that such membership may become a mark of honor and distinction based on merit.

OFFICERS

Leo Corbett, President
Hal Rosson, 1st Vice-president
William Daniels, 2nd Vice-president
Joseph Baro, 3rd Vice-president
Walter Strong, Treasurer
Charles Clarke, Secretary
Vance Miller, Sergeant-at-Arms

BOARD OF GOVERNORS

Arthur Edison, Daniel Fapp, George Feltz, Barrett Gaffey, Sol Halpern, Ray Rosenblum, John Swin, and Philip Tannous.

ALTERNATE BOARD MEMBERS

John Arnold
Harold Epstein
Falcon Edwards
Viggo Miller
Paul Vogel
James Van Tyne
Charles Salerno
Lester Ballard
Gilbert Wasserman
Gordon Arlt

Committee Chairman: By-Laws, Charles C. Clarke; Membership, Sol Halpern; Finance and Publications, Arthur Miller; Public Relations, Stanley Carter; Entertainment, Arthur Edison; Research and Education, Falcon Edwards; Retirement Income Insurance, Harold Rosson; Propaganda, Ray Rosenblum.



Rainbow Pictures now offers a completely staffed and equipped studio for motion picture productions.

Write for complete resume

EQUIPMENT: (Partial list)

35MM Mitchell BNC • 35MM Mitchell NC

35MM Arriflex Camera • 35MM RCA Sound

Lights, dollies, cables, parallels, etc.



1340 Leavette Avenue

Coral Gables 46, Florida

Telephone

MOhewk 5-3524

New!



SUPER BALTAR* LENSES

... featuring today's highest resolution for wide screen, television and photo instrumentation

This new Super Baltar line of matched motion picture lenses complements and expands the famed Baltar series to include 70 mm coverage. And it balances illumination, flattens the field, and heightens contrast like no lens you've ever seen! You get high picture fidelity from corner to corner, edge to edge, of the film frame—dependable result of the most critical optical characteristics ever built into a professional lens.

Features include: minimum back focus of 32 mm; choice of mounts, barrel or custom focusing, to meet your specific needs; seven focal lengths, from 26 mm to 9", optically centered to full aperture; 70 mm coverage with 3", 4", 6", and 9" lenses.

Write for Technical Publication F-162, Bausch & Lomb Incorporated, 88409 Bausch St. Rochester 2, N. Y.

*Trademark Bausch & Lomb Incorporated

Manufacturers of Motion Picture Lenses and Equipment
We are a member of the Bausch & Lomb Optical Company

BAUSCH & LOMB

Since 1858



Revolutionary new Mitchell R-35 Reflex Studio Camera features new Super Baltar Lenses—in special focusing mounts designed by B&L in collaboration with Mitchell engineers.

INDUSTRY NEWS

NEWS BRIEFS OF INDUSTRY ACTIVITIES, PRODUCTS AND PROGRESS

Industry's Future Promising

The future for motion picture production in Hollywood is bright, clear and promising.

Motion picture studio stocks are selling at an all-time high—particularly those of 20th Century-Fox, Columbia Pictures, Universal, United Artists, M-G-M, and Paramount.

20th Century-Fox has a schedule of 36 pictures set for production during the next twelve months, and the studio's plans call for an average of five pictures in active production on the sound stages throughout the year.

Phase of the new producer-distributing company organized by Pathe Laboratories and its parent, American Corp., call for not less than 12 pictures to be produced the first year.

In the television film field, the coming season is expected to be the greatest yet. TV film production companies have been busy lining up key crew personnel, with assurances that later will be carried for a minimum of eight months, with no layoffs during the year-end period. Cameramen, sound men, electricians and grips are being assembled into units by these companies to insure full working teams during the coming months of expanded production schedules.

Even Moviecam's short subject production schedule is being expanded. The schedule of 12 completed for this year has been expanded to include two more. Moviecam's production head Edmund Beek now has several camera units in the field working on seven short subject releases for next year.

• • •

CBS Planning 45-min. Films

TV films 45 minutes in length are in the planning stage at CBS Films. According to Robert F. Lewine, programming vice-president of the company, "... a half-hour show is too short and an hour show too long." With a 45-minute film, a station would start at 10:00 p.m. and follow with a 15-minute news roundup and schedule a feature film for 11 o'clock.

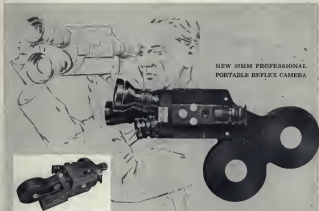
The new format, Lewine explained, would permit a station an obvious two-fold advantage over competitors. First, in having a top quality program running into their opponent's 10:30 p.m. time and, secondly, the station would

Continued on Page 518

NEW

MITCHELL R-35 Reflex Hand Held or Tripod Mounted*

Here for the first time is a 35mm reflex motion picture camera which combines streamlined lightweight design with the full range of professional features. Its superbly engineered design by Mitchell—the world's leading source of professional motion picture cameras—assures a remarkable versatility in filming. Among the broad capabilities of the R-35 are: theatrical and television productions—on location and in the studio; underwater use; high speed instrumentation films; and both animation and stop-motion



This camera produces steady, brilliant pictures through its use of dual registration pins and dual pull-down claws. A special series of Super Baltar matched F 2.8 lenses were specifically designed for the R-35 by Bausch & Lomb. Variable opening disc shutter provides positive exposure control. By means of a simple adaptor the R-35 can be used with standard Mitchell 1000' magazines for tripod mounting. These are but a few of the outstanding professional features that make the Mitchell R-35 a major cinematic development. Send for the new R-35 Bulletin. *Tripod adaptor and blimp available as accessories.

MITCHELL R-35

MITCHELL CAMERA
CORPORATION
444 W. Howard St., Chicago 4, Calif.
Cable Address: "Miranor"

Camera Mart

CAMART TIGHTWIND ADAPTER



Only
BALANCING
TIGHTWIND

Eliminates shaking
in shooting
difficult low angles—
NO SHOCK—
Fixed to any 16 or
35mm camera

\$34.95



CAMART DUAL SOUND EDITOR MODEL SB 111

Complete with Optical sound reproduction
head for choice of magnetic sound, Best
plate, Amplifier speaker. For Single or double
system sound

Dual Recorder (with head) \$195.00

Disc Amplifier Viewer 85.00

Special Reader Viewer Comb 269.00



CAMART SLATE AND CLAP-STICK

Large professional size for sound production
Continuous space for all essential information
Originally sold for \$11.75. Now only

\$4.75

the **CAMERA MART** Inc.

1845 BROADWAY

NEW YORK 23, N. Y.

Later Expansion

INDUSTRY NEWS

Continued from Page 538

get a 15-minute news break plus start
ing its feature film at the most con-
venient hour.

Nylon Pressure Plates for RCA Motion Picture Projectors

Motion picture projection now being
produced by RCA feature pressure
plates or "shoes" made of nylon, which
have a longer life than metal and also
materially reduce noise of projector
operation.

Peter Mole Dies at 68

Peter Mole, President since 1927 of
the Mole-Richardson Co., manufac-
turers of studio lighting equipment,
died suddenly August 2nd while va-
cationing. He was



PETER MOLE

68 years old. Born in Termini, Sicily,
Mole was brought to the U.S. by his
parents at the age of six. Educated in
various technical schools, he later
joined the engineering staff of General
Electric Co., where
he was active in the development of
G-E's searchlights and a high-intensity
rotating carbon-arc for film projectors.

He moved to California in 1923
and ultimately joined forces with
Elmer C. Richardson and Fielding C.
Coates with whom he formed the Mole-
Richardson Company.

He was an Associate Member of the
American Society of Cinematographers
and a member and past-president of
SMPTE. His widow, daughter, five
grandchildren, two brothers and a sister
survive.

New Idea in Storyboards

A new and more economical concept
in storyboards for use by major stu-
dios, animated cartoon producers, and
the business film industry has been
developed by Frank Barron and Jack
Eisenbach of Hollywood. Later are co-
producers of the new Jewish-American
Hour on KOOP radio.

New Special Effects Process

Producer Edward Scoll has devel-
oped, in conjunction with Howard A.
Anderson Co., a new process of special
effects photography, which he will use
for the first time in "Jack the Giant
Killer," upcoming release for United
Artists.

Trade-named the Fantescope Pro-

cess, it is said to consist of innovations
in color photography that impart di-
mensions to model animation. The sys-
tem also features a matte process that
integrates the use of stop-action pup-
pets with live action, with the object
of eliminating need for miniatures.
Chief claim for the new process is its
ability to add realism to action scenes.

Fantescope utilizes Technicolor's full
aperture wide-screen process, which
takes full advantage of regular 35mm
negative without need for special cam-
eras or film.

New Zoom Lens Is Announced by Panavision

Panavision is now more less intro-
duced last month by Panavision, Inc.,
Los Angeles. New lens is said to pre-
sent more to handle and difficult camera
set-ups, and to eliminate in some cases
camera dollying. Lens will be used
for the first time on "West Side Story,"
which Dorel Fapp, ASC, is photo-
graphing in New York for United
Artists.

According to Panavision's president,
Robert Gottschalk, the Panavision is
the first lens of its kind designed for
65mm cinematography.

Method for Integrating Videotape and Film

Loren Ryder, president of Ryder
Sound Services, Hollywood, last month
introduced a simplified and advanced
method of editing video tape and a
sound procedure integration under the
trade-name of RSS Re-Synchronizer.
According to Ryder, device is a posi-
tional connecting link between motion
picture film and TV techniques, and
permits for the first time the integra-
tion of film and videotape techniques,
or an interchange of the processes.



New Hollywood Quarters For Kling Photo Corporation

Kling Photo Corp., New York, im-
porter and distributor of West German
precision photographic equipment, has
acquired the building formerly occupied
by Polaroid at 826 Cole Ave.,
Hollywood. The company's west coast
branch will move to the new building
about October 1st. Location is in
Hollywood's fast growing "photo-
graphic distributor's district."

Moonlight blue, crisp blue, cold blue, sea blue.

Ansochrome® Professional Camera Film Type 242 provides critical color balance in the most delicate, blues, yellows and all other colors. Use this superb low-contrast emulsion wherever the ultimate in delicate flesh tones is called for. Anso, Binghamton, New York. A Division of General Aniline & Film Corp.

Anso

Type 242

THE
GREATEST POWER
ACHIEVEMENT SINCE
BEN FRANKLIN'S
KITE

F & B POWER MITE

TRANSISTORIZED
POWER SUPPLY

Delivers 100 Watts, 60 Cycles AC



\$295

5" x 8" x 9"

NOW . . . FOR A LIMITED TIME

The newly designed F & B Transistorized Battery Charger will be included FREE to every purchaser of any size battery.

- 15 Volt Power-Mite Battery
- Transistorized Converter
- Battery Charger

- Attached Voltmeter
- Charging Rate Ammeter
- Metal Case with Leather Carrying Strap and Receptacle

The days of the gasoline generator are rapidly waning. These tiny transistorized converters and nickel-cadmium batteries are logical successors to unweildy, unsafe, unreliable and noisy generators.

This little 5" x 8" x 9" unit, weighing less than 12 lbs., will run the 1200 ft. Auricon more than 2,000 feet at 24 fps... or it will run the Auricon Super 1200 and the Hailes 12 mm. Recorder in perfect sync.

The first unit made was used in photographing Ike's recent trip around the World.

The F & B POWER-MITE is another new engineer achievement as Florman & Babb's outstanding staff to be First & Best. Only one of these units at a time which make up F & B's complete stock of professional movie equipment.

NEW F & B POWER-MITE NICKEL CADMIUM BATTERIES



LARGEST CAPACITY — 6.6 amp. hour's.
SMALL-SIZE — 4 9/16" per 1.25 v. cell. PROTECTABLE — Can be stored indefinitely in any condition.

SAFE — No Acid Spray or corrosive. CHARGES EASILY — To 100% in 30 minutes, and 100% in 30 minutes.
RECHARGES 70% CHARGE — After 1 year's storage.

100 WATTS — only a few drops SINCE A YEAR. PERMANENT ELECTRICITY — 30% solution of Potassium Hydroxide Batteries supplied in metal case with leather carrying strap and plug.

7 1/2 Volt — Power-Mite battery (2 cells) \$ 65.00
15 Volt — Power-Mite battery (12 cells) \$135.00

Attached voltmeter — optional \$ 28.00

Battery Charger \$ 25.95

Charging Rate Ammeter \$ 10.00

F & B Power-Mite batteries can be supplied in any combination to power practically all cameras, lanterns, etc. All the features listed are standard. Batteries are guaranteed for one full year.

SPECIAL BATTERIES ORDERED TO YOUR ORDER

O'CONNOR Fluid CAMERA HEADS MEET THE DEMAND FOR SMOOTH CONTINUOUS EASILY CONTROLLED ACTION

In spite of its weight and "Jerk-Free" fingertip control under the most difficult conditions, this head can be furnished with three different spring combinations for counter-balancing the camera, and an extra handle provides for easy conversion to the fixed-base type of operation.



Model 300 \$675

- Designed for use with 16 and 35 mm. cameras with a total weight up to 100 lbs.
- Heavy duty professional model.
- Weighs 29 pounds. Dimensions, 7" high, 7" deep, 11" wide.
- Tilts from minus 35° to plus 75°.
- Camera mounting screw 1/4" x 1/2".
- Equipped with precision ball's eye level.
- Available with Mitchell Standard, Mitchell 16, Pto. A., Auricon and O'Connor "Lenti-leaf" bases.

Model C for use with up to 20 lbs. \$275 Model 200-A for cameras up to 200 lbs. \$1750.



Write for Illustrated Brochure

Serving The World's Famous Film Makers

FLORMAN & BABB, INC.

68 West 45th Street, New York 36, New York • MUrray Hill 2-2928

in the east...it's

MOVIELAB

for

color*

and

black

&
white

MOVIELAB

MOVIELAB FILM LABORATORIES
MOVIELAB BUILDING, 519 W. 54th ST.
NEW YORK 19, N.Y. JU03CH 6-0360

★developing color negatives • additive color printing • reduction printing including A & B • color slide film processing • blowups • internegatives • Kodachrome scene-to-scene color balanced printing • Ektachrome developing and printing • registration printing • plus complete black and white facilities including cutting rooms, storage rooms and the finest screening facilities in the east.

Camera Mart

BARDWELL LIGHTS



HIGH POWER
UNIT FOR
BLACK AND
WHITE OR
COLOR

Some lights the
Hollywood pro-
fessionals use
Priced from

\$81.00

CAMART BABY DOLLY



Only a four wheel dolly will provide the balance and stability required for professional production. Adjustable seat for Cameramen, platform, intermediate, assistant. Dolly tracks available.

\$425.00

CAMART CAR TOP CLAMPS



Inserts in steady support for your camera, real camera when stop a motion picture, television or car platform. Set of three

\$28.00

SALE AND RENTAL OF ALL PRODUCTION EQUIPMENT

Archie, Gellies, Arliss, Auden, Michael
Conner, Design and Supply Shop

the CAMERA MART, Inc.

1845 BROADWAY

NEW YORK 23, N. Y.

Call Connecticut

WHAT'S NEW

IN EQUIPMENT, ACCESSORIES, SERVICES



Car-top Tripod Clamps

Creskold Engineering Co., 363 Tenth Ave., N. Y. 19, N. Y., announces that its line of car-top tripod clamps are made of cast bronze to ensure trouble-proof operation in any kind of weather. Externally-finished in black crackle enamel, clamps are designed for heavy duty use on car-tops or car-top platforms. Base accepts foot-clip of all standard motion picture and TV camera tripods, and threaded tie-down bolt insures security of tripod legs even when vehicle is moving over roughest terrain. Set of three lists for \$28.00, F.O.B., New York.



Super Baltar Lenses

Rausch & Leimb, Rochester 8, N. Y., announces a new series of Super Baltar Lenses designed for motion picture, television and special purpose applications. New series will augment the company's present line of Baltar lenses, incorporating a newly-designed optical system, the Super Baltars are made from new glasses of high index, have excellent resolution and are used to have the most even distribution of light ever offered in a motion picture camera lens. New series includes eight lenses ranging from 35mm to 5" focal length, with a speed of f/2.8. Coated for both L and T stops, all focal lengths cover standard 35mm motion picture frames; lengths 5" to 6" cover 35mm film frames. Back focal lengths range from 35mm to 158mm. The Super Baltars will first be seen on the new Mitchell B-35 (reflex) cameras. Further details are incorporated in the company's Bulletin No. P-103, available by writing the company direct.



Magnetic Conversion Unit

Gorg, Box 11, Binghamton, New York, announces a magnetic recording conversion unit for converting 16mm optical sound projectors to magnetic sound. Units are engineered especially for each make and model projector to insure top quality results in both recording and playback. The conversion is completely compatible with all equipment and films presently in use and requires no change in film threading nor limits the size of film reels that may be used. List price is \$495.00.



Shoulder-peg

Blue Print Corp., P.O. Box 483, Glendora, Calif., announces a new lightweight shoulder-peg for 16mm cameras and small 35mm motion picture cameras. Trade-named the Stedi-Rest, unit weighs but 9 ounces and will accommodate the addition of a light bar for indoor photography where 110-v lines are readily accessible. The Stedi-Rest is especially suitable to shooting with camera mounted with a zoom lens because it leaves one hand free for handling the zoom lens lever without disturbing the steadiness of the camera.

Continued on Page 124



Announcing



RACH Auricon® ALL-TRANSISTORIZED FILMAGNETIC® RECORDING AMPLIFIER MODEL MA-11

- ★ All-transistorized! Bulky batteries and heavy transformers eliminated.
- ★ Rechargeable battery or continuous A.C. operation
- ★ 14 transistors for frequency response to 12,000 cycles.
- ★ Extreme portability and dependability. Weighs only 5 lbs.
- ★ Temperature-compensated for world-wide use, winter and summer
- ★ Equipped with transistor-matched FILMAGNETIC heads.
- ★ Fitted carrying case can be conveniently stored under pullman seat or carried as hand-luggage on plane.

FILMAGNETIC DUPLEX A.C. POWER-PACK & CHARGER will fully charge MA-11 Amplifier battery overnight. Plug into wall socket - plug into Amplifier - it's that easy!



Fully charged Battery will operate Filmagnetic Model MA-11 Amplifier for more than 8 hours of sound on film recording.



ALSO USED AS POWER-PACK for continuously operating Amplifier direct from 115 Volt A.C. outlet.

- ★ WRITE FOR FREE AURICON CATALOG WITH INFORMATION ON THE NEW ALL-TRANSISTORIZED FILMAGNETIC RECORDING SYSTEM...



THIS IS THE FILMAGNETIC CAMERA UNIT for silent magnetic sound-on-film. FILMAGNETIC sound-on-film recording can be factory installed on all existing, or earlier, Auricon Cameras. Recording on 35-mm film back-sets at 1000 ft. per 100 ft. professional quality 16 mm. taking pictures and produces multi-representation after sound processing. The film can be shown on any 16mm independent projector. In use since 1953, 100,000,000 professional recordings, FILMAGNETIC, with the new MA-11 Amplifier, brings you the means for producing the sound in professional films - sound on film motion pictures. The up-to-date sound-on-film capability of your Auricon Camera is not outdated. Charge back and forth at will. () without limit!

RACH AURICON, Inc.
5502 Romeine Street, Hollywood 28, California

HOLLYWOOD 9-0981

THE LINE OF 16MM SOUND-ON-FILM CAMERAS



CINE VOICE X
100 ft. Reels 2 1/2 min.



AURICON 1700-400 SPECIAL
400 ft. Reels 11 min.



AURICON 1700-400
400 ft. Reels 11 min.



AURICON SUPER 1000
1000 ft. Reels 20 min.

GUARANTEE
All Auricon Equipment is sold with a 30 day money back guarantee and a 1 year Service Warranty. You must be satisfied!



"FILMAGNETIC" SOUND FOR COLOR OR BLACK & WHITE

AURICON... THE PROFESSIONAL CAMERA - STANDARD OF THE 16MM SOUND INDUSTRY SINCE 1921

SECRETS, ANYONE?

From our closely-guarded
list of **DARK SECRETS**
we've deciphered the
following gems:

The Secret of General's
Superb Color Prints

The Inside Story of our
Award-Winning Black and
White Techniques

The Facts about our Unique
35-32 mm Method

The Secret of our Superior
Sound on Film

To pry loose film, and
other inside stuff, call,
write, send specs, or
drop in personally.
Glad to have you.



GENERAL
FILM LABORATORIES



1546 ANGYLE • HOLLYWOOD 28, CALIF. • HO 2-6171 central office on / 106 W. 14th ST. • KANSAS CITY 5, MO. • GR 5-0044

LLOYD'S BIRTHDAY SALE

Six years ago I left the Navy to open my store. I was told then that I wouldn't last more than 6 months BUT LOW PRICES and INTEGRITY have helped us grow into Hollywood's popular LLOYD'S CAMERA EXCHANGE.

HELP US CELEBRATE!

8MM AND 16MM CAMERAS	
Bell & Howell 25mm standard med. hi-speed, L.B., w/mags, lens, cables, extra bats and cases	\$2,600.00
Bell & Howell 25mm, hi-speed, w/switchover 270°	1,950.00
Geo-Special 1 w/1m lens and 180° med.	295.00
Michael 15mm outfit complete w/klamp, lens, tripod, etc. and guaranteed	6,500.00
Sperry 1/8, w/2" F2.8 lens	155.00
Sperry Compact, barrel, welder, 1st ed.	255.00
Bell Camera, 25mm w/50mm lens	145.00
Bell & Howell Specialist w/angle-lens attachment, complete w/2 mags, finder	795.00
Bolex B8, w/18mm lens, demountable	295.00
Auriflex 35mm Bolex, w/typic motor	1,550.00

EDITING—PROJECTION

Moviola, Mod 3, complete	\$ 140.50
Joe Franchot, 15mm Photo Special	285.00
Bell 35mm Franchot, clean	285.00
Megascopic Recorder—Unit	\$2,500
Like new	1,495.00
Editor 15-35 and 35-16 Unit	\$2,495
Special	985.00
Bell & Howell 25mm editor, head only	65.00
Bell & Howell 15mm editor comp w/records	89.50
Moviola Mod "B" Pic Head, can take speed, foot pedal and take-up arm	165.00
Moviola w/ball's eye, 16mm	175.00

LENSES, ACCESSORIES, LIGHTING

Colorflex Jr. Kit	\$ 137.00
Pan Cinor 16mm, Constant, 25mm to 16mm	99.00
Kodak 4" — F/2.8, coated, for byrnes	190.00
Witchell Finder, variable mags, new	275.00
Witchell Finder, used, L.B.	195.00
Witchell Stand motor, 110-V, A.C.—D.C.	225.00
Witchell 25mm, Var. Speed Motor	225.00
Witchell Tripod w/revolve head	385.00
Witchell 16-Mil. used	37.50
Bolex Underwater Bolex. Reg #450, demountable	360.00
8 & 4 Underwater Housing. Reg # 5425	340.00
Bell & Howell 480 mags, 25mm	27.50
Miller Head "B" Fluid Head, new (Australia)	109.50

MANY MORE OFFERS!!!

LLOYD'S
CAMERA EXCHANGE
1412 Cahuenga Blvd., Hollywood 28, Cal.
HOLLYWOOD 7-7189

GADGETS and SHORT-CUTS

BARN DOOR SAFETY CATCH

—Kluge Studio engineers in London recently devised a simple safety catch for fitting to barn doors mounted on set lumps. The gadget provides a safety factor in case a lump operator fails to engage the barn door mount with bottom slot on the lump front. It consists of a stop catch on each of the vertical sides of the barn door flange, slightly above the side brackets of the lump front. Catch consists of small steel inscribed pivoted from one corner on a stepped bolt fixed through flange of the barn door. The outside lower toe of catch will automatically swing to the safety position when on a lump.—British Kinematography.



CAMERA RAINCOAT—The plastic bags supplied by clearing establishments as parcel protectors make ideal moisture-proof covers for any motion picture camera. Our cameramen always carry one or more in such cases in case for emergency use in case a sudden shower is encountered on a filming assignment. The plastic covers cost only a few cents each and may be discarded after use.—W. A. Morton, *Southwest News & Photo Service, Glendale, Calif.*



VERSATILE CAMERA MOUNT

—To make effective "boom shots" on an industrial location, a standard Towermotor with hydraulic lift was employed. It proved ideal because the tractor unit of the Towermotor is small and narrow enough to traverse narrow passageways, and the hydraulic lift and platform are extremely rigid, affording a solid elevated support for camera and operator. (Pictured on platform is a special swiveling mount for camera, required for the particular assignment, and is not part of the Towermotor).—Joseph Henry, *Glendale, Calif.*





CECO 21MM PROFESSIONAL FILM
VIEWER WITH DOUBLE SYSTEM
SOUND BEARER



CECO HI-SPEED EDITING TABLE
(in 16mm and 25mm models)



CECO 8-100 PROGRAMMING DEVICE
(Interlaminar)



CECO ES-1 SHUTTER & FILTER
HOLDER FOR 35mm SPECIAL AND
80mm CAMERAS
(Data Special illustrated)

SALES-SERVICE-RENTALS

*CECO—Trademark for Camera Equipment CO

ONLY CECO GIVES YOU THESE PLUSES



**SALES AND SERVICE OF THE
WORLD'S FINEST PROFESSIONAL**

FILM MAKING EQUIPMENT

—PLUS THE TECHNICAL GUIDANCE
TO GET THE MOST OUT OF THEM

PLUS on time delivery—anywhere
in the world—within your budget!

PLUS a Repair Department staffed
with technicians, expert in every
phase of professional Motion Picture
and TV equipment repair!



VOLTALOCK NICHL-CADMIUM
LIFE-WEIGHT BATTERIES



CECO 8-140 REMOTE CONTROL PAN
AND TILT HEAD WITH "TOTAL 8-STOP"



CECO TR 8 PROFESSIONAL JUMBO
REACTION HEAD TRIPOD

**GET
ALL
THE
FACTS!
SEND
THIS
POSTAGE
FREE
CARD
TODAY!**

CAMERA EQUIPMENT CO., INC.

105 West 43rd St. New York 36, N.Y.
JFK 64 1429

Gentlemen: I am interested in the items checked below.
Please rush me more free information on these products.

- | | |
|--|--|
| <input type="checkbox"/> C 3540 Step Motion Meter | <input type="checkbox"/> ST 3 Tripod Tie Down Gromps |
| <input type="checkbox"/> 8-140 Remote Control Head | <input type="checkbox"/> 25mm Professional Film Viewer |
| <input type="checkbox"/> TR 8 Pro Jr. Reaction Head Tripod | <input type="checkbox"/> Variable Mount Crumple Balances |
| <input type="checkbox"/> 15-1 Synchro & Filter Holder | <input type="checkbox"/> Singspersen Synchronizer |
| <input type="checkbox"/> 8-100 Programming Device | <input type="checkbox"/> Markbath Quinac Leg |
| <input type="checkbox"/> Cooke Lenses | <input type="checkbox"/> Karpman Steadicam |
| <input type="checkbox"/> Hi Speed Sinking Table | <input type="checkbox"/> Travel Portable Matt Splitter |
| <input type="checkbox"/> Pumping Film Squeeze | |

Name _____ Title _____

Firm _____

Address _____

City _____ State _____



TRAD PORTABLE HOT SPICER
(Rental-16mm and 35mm Models)



CECO G-3544 STOP ACTION MOTOR
FOR ARRIEFLIX 16MM CAMERA

PLUS the largest supply of Motion Picture, TV and Photo-Instrumentation equipment for sale or rent anywhere!



RANGETONE SYNCHRONIZER
(1/4" Synch. Playback Control)

PLUS a full staff of trained camera, lighting, sound, editing and projection engineers at your back and call to solve your problems... no charge for consultation service!



BENTON GYROSCOPIC STABILIZER



FIBERPLATE MAGNETIC FILM SPICER
(for 16mm and 35 mm)

FIRST CLASS
PERMIT No. 4216
New York, N. Y.
Sec. 367, P. 1 & 2.

BUSINESS REPLY MAIL

NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

POSTAGE WILL BE PAID BY

CAMERA EQUIPMENT COMPANY, INC.

DEPT. 62, 315 WEST 43RD STREET

NEW YORK 36, N. Y.

PLUS three offices to serve you better... New York... Miami, Florida... and Hollywood, California!



COORE MINERAL AND
SERIES D LENSES



CECO TV-3 TRIPOD TIE-DOWN CLAMPS



WARDEN GRAPHIC LOG

In New York
Camera Equipment Co., Inc.
315 W 43rd St., New York 36, N.Y.

In Florida
Camera Equipment Co., Inc. of Florida
1325 East 10th Ave., Wausatch, Florida

In Hollywood, California
Call JACK PILL • POBox 3-8335

PLUS modern facilities consisting of a *Mechanics Shop* with the latest equipment; a *Sound Department* with complete test facilities; fully equipped *Camera, Lighting, Editing and Projection Departments*; and an *Engineering and Design Department* second to none!

NEVER BEFORE

A HELPFUL BOOK LIKE THIS!

FOR MOTION PICTURE PHOTOGRAPHERS



\$7.50 COPY

**RESERVED COPIES
WILL BE DELIVERED
FIRST! Reserve
Yours NOW! ▶ ▶ ▶**

Gives you detailed answers to hundreds of problems and questions relating to Theatrical, Television, Industrial, Military, Educational and Documentary motion picture production.

- Illustration Data for both "boosted voltage" and standard studio lighting equipment together with foot candle, exposure and voltage tables and wiring diagrams.
- Data never before printed on: Focusing Speeds, Optical Effects, Ultra High Speed, Underwater Cinematography, Make-Up, Background Plates, Process Scenes, Shooting Day-for-Night (color & B&W).
- Special Data on Exposure, Color, Illumination, Arctic and Tropic Cinematography, Infrared Film, Filters, etc.
- Tables for compensating Filter Factors, Shutter Angles, Camera Speeds.
- Many useful Camera, Lens, and Filming Formulas.
- Complete Data for Ultra

Close-Up Cinematography with Extension Tubes, and Diopter Lenses.

- Wide-Screen Processes, complete aperture and viewfinder dimensions for all aspect ratios for 65mm, 35mm and 16mm, squeezed and unsqueezed photography, single and double frame.
- Complete Lens Angle Data for all lenses for all aspect ratios.
- Film Threading Diagrams for all cameras.
- Detailed Listing of all Modern Professional Cameras: 65mm, 35mm, and 16mm.
- Black-and-White and Color Film Data, together with ASA ratings, identification, and Incident Light Readings for same.
- Up-to-Date Data on Lenses, Filters, Exposure and Color Temperature Meters.

There's something to help you on every page of this valuable fact-packed book!

AMERICAN CINEMATOGRAPHER MANUAL

P.O. Box 2230, Hollywood 28, Calif.

Please reserve for me a copy of the AMERICAN CINEMATOGRAPHER MANUAL.

Payment of \$7.50 is enclosed. _____ Please ship C.O.D. _____

Name _____

Street & No. _____

City _____

State _____

Zip _____

**For orders mailed within California, please add 4% sales tax.*

MAKE MOVIES
WITH THE
RUBYLITE

ANYWHERE



PORTABLE MOVIE LIGHT

Searches over 100' & light is waterproof
beam. No glowing hot spots. No eye camera.
No focus needed. No battery re-charge.
Rechargeable battery with built-in charger.
Weighs only 3 lbs. Guaranteed one year.

\$199.50

COMPLETE WITH BATTERY

Short coast apertures with portable power
RUBYLITE POWER-PAC
FOR AUDICOR CAMERAS
Power Pac 20 weighs in with the fine
miniature cameras, batteries and charger.

\$139.50

WRITE FOR COMPLETE INFORMATION

PHOTOMART

338 So. Franklin St. - Tampa 2, Florida
TELEPHONE 2-1148

For 35mm FILM STRIPS!

For Animation!

For I.D. & Recording!

Model 300
SELL & HOWELL
35mm CAMERA



SINGLE FRAME CAMERA —
"TRIP-LEVER" ACTION!

Moment of time ACTIVATES shutter and
advances film. Ready for shooting up to
800 exposures per winding on your loads.
Powerful spring motor drive built for long
rugged life. Auto. stop action automatic
aperture. 1/60" daylight loading speeds of
1/1000 shutter & wide or color film. Same
total value.
Wm. Howell 2/4.5 & N. lens \$299.50
Wm. 1" 8/15 lens. — — — \$429.50
Write for free 121 pg. Catalog

MARK & JAMES, INC.
121 S. Wabash Chicago 4, Illinois

AC 1/10

WALTER STRINGER'S

QUESTIONS & ANSWERS

Need advice on a picture making problem? Your questions are invited
and will be answered by real Questions and answers considered of
general interest will appear in this column each month.



Q I would like to produce the main
title for a 16mm black-and-white
picture I am making, and have the text
appear in white letters over a live-action
background. What is the simplest method
for doing this? The picture is being
shot on negative film.—F.S., Albany,
N.Y.

Answer: This is best done through
the process of negative-positive print-
ing in which the title is superimposed
and the background printed in one
pass through the printing machine.
This method is commonly used to
superimpose English titles on foreign
pictures for U.S. release.

Because this method is more ex-
pensive than that required for a normal
print, the use of a dupe negative is
recommended, with the title super-
imposition incorporated into one re-
cord of film for final release use.

Q The cover of your July issue shows
cinematographer James Wong
Howe using a meter that is strange to
me. What brand meter is he using and
what is its source and cost? If this meter
is not available here, what Ameri-
can meters may be used for a compar-
able lighting situation?—A.S., Man-
hemp, N.Y.

Answer: The meter shown on our July
cover is a Technicolor Incident Light
meter. It was developed and made by
Technicolor Corp. several years ago to
aid cameramen using Technicolor
three-strip cameras in obtaining proper
light balance on the sets of color
productions.

The meter is no longer being manu-
factured and the only ones presently
available are in the hands of various
Hollywood cinematographers. Other in-
cident light meters now on the market,
such as the Norwood and the Spectra,
qualify for use in all professional film
making work. Both meters feature a
swivel head containing the photo cell,
and both meters may be used for read-
ing both incident and reflected light.

Q If I use a combination of two fil-
ters to produce a day-for-night ef-
fect, how do I determine the total factor
of the filters?—C.L., Savage, Minn.

Answer: With few exceptions, the rule
to follow is "multiply the two factors"
to obtain the effective factor of the fil-
ter combination. Thus, if you use one
filter having a factor of 4 and another
having a factor of 5, the combination
factor will be 20.

Q I am planning a 16mm commer-
cial production for which two and
possibly three different cameras will be
used on photograph footage that will
later be intercut for the final picture.
Pre-production test shots show that the
frames in film shot with one camera
do not line up with film shot with the
other two. What is the cause of this and
how can the problem be corrected?—
G.L.C., Los Angeles.

Answer: The problem is caused by the
film aperture in the one camera being
positioned differently than that in the
other two cameras. In most 16mm cam-
eras, the aperture is adjustable so that
it can be made to match the apertures
of other cameras used on the same pro-
duction. Take all the cameras that are
to be used to a dependable camera re-
pair or service shop and have the aper-
tures adjusted so all three will line up
accurately and thus produce footage
that will intercut without trouble.

Q Viewing a Walt Disney animated
film recently I was impressed by the
great depth of field that reached the
background photography. How was
this achieved? Were any special optics
employed?—A.L., Karachi, Pakistan.

Answer: No special optics are required
for the depth of field achieved in multi-
plane animation photography. The
effect of depth is achieved by proper
employment of the multiplane set-up
and by working with sufficient volume
of illumination and a duration of ex-
posure that will permit shooting at the
smallest possible lens stop. Here,
as in all photography, the smaller the
stop the greater the depth of field.

In the composition of multiplane
scenes, the various planes are so spaced
that the depth of field will never exceed
the depth limitations of the camera
lens being used. 4

HIGH SPEED-HIGH VOLUME

Jet Spray



Processes up to 150 ft. of film per min.

When your 16mm and 35mm black and white film processing requirements call for high speed and/or high volume, the Houston Fearless Model 5120PN Rapid Spray Processor will do the job superbly well. High-impingement jet-spray application of the developing solution, fix and wash (as well as impingement drying) makes possible processing of positive film at 150 f.p.m., negative film at 100 f.p.m. Complete cycle at top speed is only 5 minutes, dry to dry.

Fully automatic operation plus highly accurate temperature controls (within $\pm 1/4^{\circ}\text{F}$) assure uniformly fine results. Solution reservoir (adjustable to 5 or 10 gal. capacity), permits alternating between neg and pos. processing. The machine also features a direct, positive film drive, automatic film-tension control, efficient air squeezers and electric tachometer. Wax or silicone applicator and archival wash are optional. Stainless steel throughout. Write or phone for brochure and price.



**HOUSTON
FEARLESS**

DIVISION OF HOUSTON FEARLESS CORP.

HOUSTON FEARLESS DIVISION

10801 W. Olympic Blvd., Los Angeles 44, Calif.

Send catalogs and prices on ☐ Rapid Spray Processor

☐ Other E&M Processors ☐ Color Processors

☐ Mix and Storage Tanks ☐ Air Squeezers

☐ Camera Heads ☐ Tripods ☐ Belts

Name _____

Firm _____

Address _____

City _____ State _____

THE ONE-STOP SO

ANNUAL CLEARANCE SALE

These Low Prices in Effect Until Oct. 1st, 1960. ACT NOW! Hundreds of Other Specials Included in this Annual Sale, Write, Wire or Phone Your Needs Before It Is Too Late!!

★ CAMERAS, 35MM

MITCHELL 370, 2 Bellows (large) 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00

★ CAMERAS, 16MM

CINE SQUAD 1 with Pan Cine 40 lens \$249.00
CINE SQUAD 1 with Pan Cine 40 lens \$249.00
CINE SQUAD 1 with Pan Cine 40 lens \$249.00
CINE SQUAD 1 with Pan Cine 40 lens \$249.00
CINE SQUAD 1 with Pan Cine 40 lens \$249.00
CINE SQUAD 1 with Pan Cine 40 lens \$249.00
CINE SQUAD 1 with Pan Cine 40 lens \$249.00
CINE SQUAD 1 with Pan Cine 40 lens \$249.00
CINE SQUAD 1 with Pan Cine 40 lens \$249.00
CINE SQUAD 1 with Pan Cine 40 lens \$249.00

★ CAMERA ACCESSORIES

NATIONAL Cine Oak Leaf, very good \$99.00
NATIONAL Cine Oak Leaf, very good \$99.00
NATIONAL Cine Oak Leaf, very good \$99.00
NATIONAL Cine Oak Leaf, very good \$99.00
NATIONAL Cine Oak Leaf, very good \$99.00
NATIONAL Cine Oak Leaf, very good \$99.00
NATIONAL Cine Oak Leaf, very good \$99.00
NATIONAL Cine Oak Leaf, very good \$99.00
NATIONAL Cine Oak Leaf, very good \$99.00
NATIONAL Cine Oak Leaf, very good \$99.00

★ LABORATORY EQUIPMENT

TELE Light Source 1000 1/2 x 11 inches \$49.00
TELE Light Source 1000 1/2 x 11 inches \$49.00
TELE Light Source 1000 1/2 x 11 inches \$49.00
TELE Light Source 1000 1/2 x 11 inches \$49.00
TELE Light Source 1000 1/2 x 11 inches \$49.00
TELE Light Source 1000 1/2 x 11 inches \$49.00
TELE Light Source 1000 1/2 x 11 inches \$49.00
TELE Light Source 1000 1/2 x 11 inches \$49.00
TELE Light Source 1000 1/2 x 11 inches \$49.00
TELE Light Source 1000 1/2 x 11 inches \$49.00

★ ANIMATION & SPECIAL EFFECTS

TELE Animation 1/2 x 11 inches \$49.00
TELE Animation 1/2 x 11 inches \$49.00
TELE Animation 1/2 x 11 inches \$49.00
TELE Animation 1/2 x 11 inches \$49.00
TELE Animation 1/2 x 11 inches \$49.00
TELE Animation 1/2 x 11 inches \$49.00
TELE Animation 1/2 x 11 inches \$49.00
TELE Animation 1/2 x 11 inches \$49.00
TELE Animation 1/2 x 11 inches \$49.00
TELE Animation 1/2 x 11 inches \$49.00

★ MOTION PICTURE PRINTERS

B&H Model D 35mm Continuous Printer, sound & picture
with 20 lamp assembly \$449.00
B&H Model D 35mm Continuous Printer, sound & picture
with 20 lamp assembly \$449.00
B&H Model D 35mm Continuous Printer, sound & picture
with 20 lamp assembly \$449.00
B&H Model D 35mm Continuous Printer, sound & picture
with 20 lamp assembly \$449.00
B&H Model D 35mm Continuous Printer, sound & picture
with 20 lamp assembly \$449.00
B&H Model D 35mm Continuous Printer, sound & picture
with 20 lamp assembly \$449.00
B&H Model D 35mm Continuous Printer, sound & picture
with 20 lamp assembly \$449.00
B&H Model D 35mm Continuous Printer, sound & picture
with 20 lamp assembly \$449.00

★ LIGHTING EQUIPMENT

MITCHELL 370, 2 Bellows (large) 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00

★ RECORDING EQUIPMENT

WESTER 35mm Cine Camera \$499.00
WESTER 35mm Cine Camera \$499.00
WESTER 35mm Cine Camera \$499.00
WESTER 35mm Cine Camera \$499.00
WESTER 35mm Cine Camera \$499.00
WESTER 35mm Cine Camera \$499.00
WESTER 35mm Cine Camera \$499.00
WESTER 35mm Cine Camera \$499.00
WESTER 35mm Cine Camera \$499.00
WESTER 35mm Cine Camera \$499.00

★ PROJECTORS, BACKGROUND, PREVIEW

MITCHELL 370, 2 Bellows (large) 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00

★ MOVILAS, EDITING MACHINES

MITCHELL 370, 2 Bellows (large) 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00

★ FILM PROCESSING EQUIPMENT

MITCHELL 370, 2 Bellows (large) 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00
MITCHELL 370, 2 Bellows, 2100V magnifying 110V
with motor, motorized, windmill, etc. \$299.00

S.O.S. VISCO-MATIC 3-SPEED PAN & TILT HEAD



"The
Finest
in
Fluidity"

ONLY
\$97.50

- Only the S.O.S. Visco-Matic has 3 Speed Pan and 3 Speed Tilt Action
- Full 360° tilt up and down. Full 360° pan
- Left or right hand operation
- Positive tilt and pan locks
- Overheated to operate in temperatures from 50° below zero to 150° above
- Velvet smooth action
- Positive built-in 1/2 in. x 1/2 in. film
- Designed for use with Arista, Cine-Vista, Bolex, M8, Pina, Cine-Ektachrome and other 16mm cameras
- Can be used with S.O.S. Jr. or S.O.S. Visco-Matic
- Adapter Plate for S.O.S. Jr. or S.O.S. Visco-Matic
- S.O.S. Jr. or S.O.S. Visco-Matic

SOSafe STUDIO LADDER

Evolutionary
new design,
opens and closes
in one easy
operation

Made of aircraft aluminum with 14-inch "ladder-rungs" safety platform and safety-rope guard-rails. 3-inch wide rubber aluminum steps with "safety lock" equipped rubber ladder ladders (top) and back feet.

- Extra wide top step for extra safety
- Lightweight for quick bulk light changes
- A mild for every 100 lbs. load—ideal for carrying equipment, ladders, ropes and other things, stable and so secure
- Use of an electric platform
- Extra sturdy support for cameras
- Only a single, no-ladder, side safety to connect

Model S2411—24 in., 90° in., 4 steps \$28.50
Model S2412—24 in., 78° in., 3 steps \$26.50
Model S2413—24 in., 66° in., 2 steps \$24.50
Model S2414—24 in., 54° in., 1 step \$24.50

Also aluminum extension ladders in stock

SOURCE OF SUPPLY!

M-H PROFESSIONAL 16mm VIEWFINDER



NOW, Owners of Ariflex, B & H, Bolex and Cine Special Cameras Can Shoot with Both Eyes Open

For all the advanced features which have made this type of viewfinder the choice of Hollywood studio cameramen for TOP performance in close and extreme close-up, this viewfinder is completely engineered to the exacting standards of the motion picture industry. As an optional feature, with available in the series, shows the field of the standard 24mm lens for 16mm cameras. A built-in scale the actual picture size allows the photographer to determine focus. A secondary magnifying lens shows an enlarged view. Batteries are provided for lenses of longer focal length and an auxiliary lens is used to cover the 16mm wide angle field.

- Large brilliant full-spectrum lenses covered from right to left. Aperture range $2\frac{1}{2}$ to 22 .
- Two dials with both eyes open. Smooth positive focus control from two feet to infinity. Accurate parallax control indicated on an engraved scale.
- Built-in optical positive lock control allows the operator to move camera.
- Photo and lens/zoom with one of many lenses or changing of magnification.
- Interchangeable from one camera to another in a matter of seconds. Easily converted to an eye-height for ease of handling and alignment.
- Excellent construction for study in focus.
- Available from easily carried for 12mm B & H.

\$145 INCLUDING AUXILIARY WIDE ANGLE LENS AND BATTERIES FOR 2 LENSES
MOUNTING BRACKETS.

Ariflex, B&H or Bolex H 16 \$15
Cine special \$25

S.O.S. LEASING PLAN

Get everything with the many advantages of this Plan specially designed for the Motion Picture Industry, making it possible to obtain latest film perfection and building equipment on very liberal terms. Write for FREE booklet.

NEW... from S. O. S. GyroSphere JUNIOR TRIPOD

Truly improved over any tripod in its class. Now... the famous S.O.S. Junior Tripod is available with an important new feature... a Ball-Joint Mount! Just loosen the central knob and adjust the ball until the ball-socket level indicates correct position. Instantly you're ready for perfectly aligned shooting without troublesome tripod leg adjustments for every set-up and sturdy support. It's the S.O.S. GyroSphere Junior Tripod.

LEVEL THE BALL... THAT'S ALL

- One-piece legless for quick and easy operation.
- Two-point shock absorber rock-steady shots at high and low positions.
- Holds most 16mm cameras including Ariflex 16mm and 24mm, Ariflex Pro, Bolex, Cine Voice, Synca, films and more.
- Sturdy, solid V-grooved hardwood legs, all treated and waxed for smooth, non-slipping action.
- Fully guaranteed against defects in materials and workmanship.



S.O.S. GyroSphere Deluxe Jr. Tripod (See ball-socket illustration)	\$110.00
S.O.S. GyroSphere Standard Jr. Tripod (See ball-socket illustration)	99.50
Ball Adapter for S.O.S. Junior and other lens heads	29.50
Ball Adapter for V-mounts & other ball heads, including knob & level	44.50
Extra large load-carrying knob, if required	4.50

EDIOLA ACTION VIEWER & SOUND READER

Many Exclusive Features!
Most Advanced Professional
16mm Action Viewer

Edit right on your film. Models from left to right or right to left operation. Eliminates film scratching and damage to sprocket holes—lensless device keeps image in constant focus—burn-free amplification—synchronized with Precision Sound Reader.



- Flows always in direction when film breaks changes.
- B&O CLEAR IMAGE, 35mm—constant sharp whether film is moving or stopped. Can be viewed in light room.
- No extra heat on film even when still.
- Coated with lead-free film prevents blur.
- One-Step Viewing.
- Can be synchronized with Sound Reader.
- Comfortable viewing distance at 16" to 14".
- Individual focusing and focusing controls.
- 16-Power projection lamp—easily replaced.
- Flip-up design allows rapid right or left view from top.
- Shows up extremely underexposed films in film.

S.O.S. Ediola Sr. M. Viewer and Sound Reader Combination with lens	\$242.40
S.O.S. Ediola Sr. Action Viewer Model 16 (left to right)	\$130
S.O.S. Ediola Sr. Action Viewer Model 16R (right to left)	\$190
Model 16A Professional Room Viewer	\$99.50

Write for brochure

"The Department Store of the Motion Picture Industry"

S.O.S. CINEMA SUPPLY CORP. 602 WEST 52nd ST., NEW YORK 19, N.Y.
Phone: PLaza 7-0440 Cable: 101040



WESTERN BRANCH—6331 Hollywood Boulevard, Hollywood 28, California—Telephone: HOLlywood 7-2124

PHOTOGRAPHIC ASSIGNMENTS

WHAT THE INDUSTRY'S CAMERAMEN WERE SHOOTING LAST MONTH

By MARION HUTCHINS

ALLIED ARTISTS

CARL GUTHEIM, ASC, "Daddy" (Albert Zugor with Paula Kelly) with Jerome Jeunisse and Paul Page Albert Zugor, director.

WILLIAM KELLER, ASC, "Look in Any Window" (New Film Co.) with Paul André and Ruth Brown. William Allread, director.



HANK SACHS, ASC
Completed shooting "The Day in the Gun" in Mexico and north to Hollywood, representative of Lippincott Studios

AMERICAN NATIONAL

MICHAEL ARNOLD, RICHARD RANGLING, COTY FULTON, "Lookin' Up" (Ziv-TV) with Max Donald Carey. "Argonauts" (Ziv-TV) with Keith Larsen and Jerry Selt.

MOVIE ARNOLD, "The Case of the Dangerous Robin" (Ziv-TV) with Ruth Mason.

JACK MARQUETTE, "Klondike" (Ziv-TV) with Ralph Tabor.

CALIFORNIA STUDIOS

JACK MARQUETTE, "War Here" (Burt Topper Productions) with Tony Russell and Beverly Sorenson. Burt Topper, director.

CASCADE PICTURES

WILLIAM REALL, ASC, "Commercials"

EDWARD BERNELL, ASC, "Commercials"

COLUMBIA STUDIOS

JACK MARQUETTE, "Two Faces West" (Screen Gems) with Charles Coleman and Jane Bray. Marjorie James, director.

BENNETT GOTTFELD, ASC, "Cry for Happiness" (William Fox Prod.) with Glen Ford and Donald O'Connor. George Marshall, director.

GEORGE MARSHALL, "The Game of Nations" (Columbia Highland Prod., shooting in Geneva) with Gregory Peck and David Niven. Alexander Mackendrick, director.

WILKIE COOPER, "Mysterious Island" (American Film Prods.) shooting in Spain) with Michael Cag and Joan Greenwood. Cyril Endfield, director.

CHARLES LAWTON, JR., ASC, "A Robin in the Sun" (Shooting in Chicago) with Sidney Poitier and Claudia McNeil. Daniel Frenn, director.

GARY ABERNETHY, ASC, "Daddy, Good Show" (Screen Gems) with Donna Reed. Andrew McCullough, director.

HAL MEYER, ASC, "Underworld U.S.A." (Wide-Screen, Globe Enterprises) with Cliff Robertson and Dolores Dorn. Sam Fuller, producer-director.

CHARLES WILSON, "Blackout" (Screen Gems) with Victor Jacy and Pat McVey. Fred Jackman, director.

HENRY FORTUNE, ASC, "Daddy the Men and" (Screen Gems) with Jay North and Herbert Anderson.

FRED GATLEY, ASC, "My Sister Eileen" (Screen Gems) with Shirley Boone and Elaine Stritch. Oscar Rudolph, director.

WILLIAM WHITELY, ASC, "Daddy" (Screen Gems) with Skip Houser and Quinn Redeker.

ELIAS CARNER, ASC, "Commercials"

KARL SCHULZ, ASC, "Commercials"

WALTER STRENG, ASC, "Commercials"

PAUL VOGEL, ASC, "Commercials"

JAMES DROUGHT, "Commercials"

DELMU—Columbia

PAUL KAGAN, ASC, "The Fable of Life" (Packaged Prods.) with Bob Hope and Lucille Ball. Melvyn Frank, director.

ROBERT DE GRACE, ASC, "Angel" (Daddy Prods.) with Anne Faye and Marshall Thompson. Leonard Johnson, director.

SH. HICKER, ASC, "The Andy Griffith Show" (Daddy Prods.) with Andy Griffith.



DENISE STARNATT, ASC
Currently shooting "The Day in the Gun" in Spain and north to Hollywood, representative of Lippincott Studios in a film

DELMU—Columbia City

CHARLES STRAUSS, "The Unsubscribable" (Daddy Prods.) with Robert Sank and Jerry Pate.

LUCYNE ARMSTRONG, ASC, "Goodnight He" (Daddy Prods.) with James Dean and Mark Miller.

LOTHAR WOLFE, ASC, "The Bad Me Good" (Bronson-Wingate Prods.) with Walter Brennan.

DELMU—Gower

CHARLES VAN ENCKE, ASC, "Ladies" (Jack Wheeler Prods.) with Jane Lockhart and Jan Provost.

ROBERT FLANKE, ASC, "My Three Sons" (Daddy Prods.) with Fred MacMurray and William Frawley.

ROBERT HAYES, "Evil Karp" (Daddy Prods.) with Ralph O'Brien.

ROBERT FITZGERALD, ASC, "Ann Southern Show" (Daddy Prods.) with Ann Southern.

LUCYNE ARMSTRONG, ASC, "Bertie and Son" (Daddy Prods.) with Pat O'Brien and Roger Perry.



HAL MEYER, ASC
Completed shooting "Underworld U.S.A." in Mexico and north to Hollywood, representative of Lippincott Studios in a film

WALT DISNEY STUDIOS

FORWARD COMMAN, ASC, "The Menagerie of Pinocchio" with Fred MacMurray and Nancy Olson. Robert Stevenson, director.

LUCYNE ARMSTRONG, ASC, "Fiddlers and Musicians" with Hedy Milla and Maurice O'Brien. David Swift, director.

WALTER COSTER, ASC, "Pop Warner Football"

FOX WESTERN AVENUE

JAMES VAN TRICE, ASC, "Deluge Galle" with Dwayne Hickman. Ed Anderson, director.

GENERAL SERVICE STUDIOS

FRANK GERMAN, ASC, "Pony Man" (CBS-TV) with Raymond Burr and Barbara Hale.

THEODORE TUTTLE, ASC, "Commercials" (Filmmagic, Inc.)

ARTHUR FERNEL, ASC, "Commercials" (Filmmagic, Inc.)

MARY GREENMAN, ASC, "Commercials" (Filmmagic, Inc.)

GOLD MEDAL STUDIOS, N.Y.

JOSEPH BRYAN, ASC, "Call of the Night" (Vanguard Prod., for Warner Bros.) with Anne Francis and Lloyd Nolan. Joseph Bryson, director.

GOLDWYN STUDIOS

LEON SCHWARTZ, ASC, "North in Alaska" (Columbia-Scripps & DeLuxe color) with John Wayne and Stewart Granger. Henry Hathaway, director.

MARY GREENMAN, ASC, "Frontier Scout" (Zodiac Pictures, UA release) with Jim Davis and Nancy Bentley. Edw. L. Cuba, director.

INDEPENDENT

LEONARD LINDOR, ASC, "A Matter of Conviction" (Columbia Pictures, for UA, shooting in N.Y.) with Ben Laposato and Dana Merrill. John Frankenhofner, director.

FRANK FLANKE, ASC, "King of Kings" (Tech. master, Samuel Bronston Prods., shooting in Spain) with Jeff Hunter and Robert Ryan. Nicholas Ray, director.



CHARLES S. HARRIS, ASC
Completed shooting "White Day" in Mexico and north to Hollywood, representative of Lippincott Studios in a film

AMERIGO BOSS, "The Blonde from Buenos Aires" (color; Continental Film; shooting in Argentina) with Mame Van Doren and Jean Pierre Aumont. George Cohen, director.

Continued on Page 57D

PROFESSIONAL JUNIOR*—product of experience

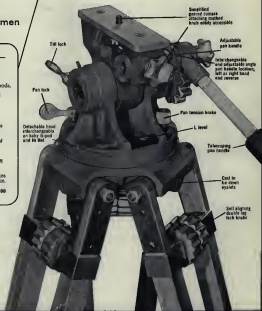
and friend to
thousands of cameramen

All tripods have one thing in common—they rest on three legs. But there the comparison ends.

Because Pro Junior towers like the Empire State Building over ordinary tripods. Because Pro Junior is the world's most convenient tripod with the world's finest features, including:

- Simplified camera attaching method.
- Adjusting telescoping pan handle with adjustable angle.
- Sockets for left, right or reverse tilt.
- Special pan tension adjusting knob, independent of pan lock.
- Cast-in fold-down eyefits.
- Self-aligning double leg locking knobs.
- IDEAL FOR MOTION PICTURE AND TV VIDEOCAMERAS

And still the price is unchanged, which makes PRO JUNIOR the world's best tripod value. Free go for PRO JUNIOR. See it today. \$156.00



GEOD Professional Jr. Hi-Hat

An adapter for extremely low-mount weights also used for tilt stands and permanent arrangements. Handles either friction or geared-down tripod heads. \$22.00



GEOD Professional Jr. Adjustable Wooden Baby Tripod

Accepts all Pro Jr. Tripod Heads. Has retractable shoe and spr. Measures 25" extended from floor to stage, 18" collapsed. Weight 7 lbs. \$75.00



PROFESSIONAL JR. Geared Head

Used on Professional Jr. standard tripod. Crank handles control pan and tilt action. \$175.00 Head only. \$225.00 Complete with tripod.

FRANK G. ZUCKER

CAMERA EQUIPMENT CO., INC.

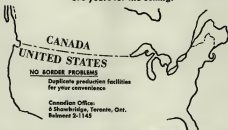
Visit our booth #2 during the S.M.P.T.E. Convention in Washington, October 17-21.

One Source for PRODUCTION RENTAL NEEDS!



- LIGHTING . ARCS . INCANDESCENT
- MOBILE GENERATORS
- TRANSFORMERS
- CAMERAS . . CRANES . . DOLLIES
- CAMERA CARS
- TECHNICAL CONSULTANTS

Frost will handle your production needs from conference room to film can. Studios . . . Transportation . . . Unit Managers . . . Talent . . . Crews . . . Locations . . . Make-up . . . and Script Personnel. Our expanded facilities are yours for the asking.



Faster Service Because We  Our Own

JACK-A-FROST

MAIN OFFICE
234 Plymouth Winery 3-4026
DETROIT 3, MICHIGAN

CANADIAN OFFICE
4 Shawbridge Belmont 2-1145
TORONTO, ONTARIO

HOLLYWOOD OFFICE
4224 Cordula P.O. Box 2-4226
N. HOLLYWOOD, CALIFORNIA



PREFERRED BY
PROFESSIONAL
CAMERAMEN
EVERYWHERE

SPECTRA® 3-COLOR METER

The ONLY meter that measures all light sources, including DAYLIGHT, accurately!

SPECTRA 3-color meter measures the proportionate amounts of all three primary colors present in the light source and indicates the filters necessary for positive color correction in Spectra Index Units. (°Kelvin conversion table supplied)



Write for descriptive literature and complete specifications

PHOTO RESEARCH CORP.

East Fremont A.B.C. President
857ND, CHERUBA BLVD
HOLLYWOOD 38, CALIFORNIA

Specialized LIGHTING EQUIPMENT

for
MOTION PICTURE, STILL
and
TELEVISION STUDIOS



Write for A Copy of Our
1960 Catalog & on Your Letterhead

Mole-Richardson Co.

137 NORTH STANBURY AVENUE
HOLLYWOOD 28, CALIF

Quality Control Center

How the Eastman Technical Service center in Hollywood aids west coast cinematographers obtain maximum photographic quality with E-K films.

If YOU ENJOY YOUR living shooting professional movies in Hollywood, you have probably accumulated a debt of thanks to a technical service you may not even know exists.

The chances are excellent that, at some time, a specialist from the Technical Service of the Eastman Kodak Motion Picture Film Department has reviewed some of your photographic footage and contributed to its quality.

This is why the Eastman Technical Service—headquartered in an old mansion at 6705 Santa Monica Boulevard, Hollywood—is in existence. Through this facility, a staff of 14 top scientific motion picture technicians strives to maintain the high technical standards of the film industry's product.

Working in close coordination with the various film laboratories in and around Hollywood, Eastman experts are on tap every day to review films which are being processed. As a rule of thumb, virtually every time a problem comes up, an Eastman expert is called in to help solve it.

The great majority of these services are performed without the knowledge of the cameraman who is benefiting from them. Actually, in the more than 30 years that the Eastman Technical Service in Hollywood has been in existence, only about 25 per cent of the West Coast cinematographers have called for help directly from this facility. However, all the cinematographers over the years have had some direct benefit from this organization.

American Cinematographer feels it is high time cameramen knew more about what is going on in the buildings at the corner of Santa Monica Boulevard and Los Palms Avenue. We also feel that all cameramen should be aware that this facility is available to aid them with information on the latest motion picture film products, physical measurements of film, developer analysis, filter problems, and other related cinematographic jobs.

The Motion Picture Film Department's West Coast Division is directed by Dr. Norwood L. Simmons, who reports to department manager, Don Hynsman in Rochester, who in turn reports to Edward Peck Curtis, vice president in charge of foreign sales and advertising for Kodak.

The Motion Picture Film Department consists of four divisions: West Coast, Mid West, East Coast, and Southern Division. In addition, the department maintains offices in major production centers around the world.

On the West Coast, Dr. Simmons heads a 14-member staff which has been recruited from university-trained scientists. Each, of course, has gone through an extensive schedule in the Rochester headquarters before being assigned to the West Coast Division.

The Hollywood office laboratory has two full-time chemists who are continually analyzing samples of motion picture film developers that are submitted by major film producers and laboratories. This includes service to both

Continued on Page 564



STAFF OF chemists in Eastman Technical Service laboratory in Hollywood analyze samples of film developers submitted by major studios and independent film laboratories.

One-cel Complex Animation

A method of producing complex animation using a single cel, based on the straboscope principle. According to author it reduces amount of art work required, eliminates cel changing in photography, and provides flexibility seldom possible by cycle animation.

By LEON S. RHODES

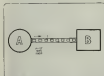


FIG. 1—"Stage" scene from left to right, there the linking called for a few cycles of 4 seconds from A to B. Therefore, with 8 steps, shot on 7's, the action was animated with a shot-out back-up—the animator rendering a total of 48 "shots."

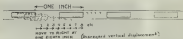


FIG. 2—Each final back-up would require "bits" advanced one-eighth of an inch on each successive cel. Each new cel was changed under the camera; the bits would advance one-eighth inch to the right.

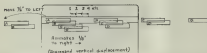


FIG. 3—Each new cel is placed one-eighth of an inch to the left, a "bit" appears to advance one-eighth inch to the right. Here an extension of the cel beyond the frame is required to cover the distance passed, although the extension does not show on the screen.

OF THE MANY FIELDS of motion picture production which now utilize animation, several—notably technical and training films, sales promotion films, and TV film commercials—have directly influenced the development of new concepts in animation technique. Most of these advances or innovations have resulted in reducing the amount of art work and consequently the amount of cel handling by animators and cameramen.

Despite the many standard effects which conventional cartoons and technical animation techniques now make possible, the animator today is often faced with the problem of creating a rather complex effect involving a great

many images moving simultaneously on the screen. Examples are: agitated molecules in a solution; thousands of falling snowflakes; electrons passing through a conductor; the flow of liquids; or simply an over-all animated background.

Where many "bits," such as snowflakes or molecules, are involved in a cyclic action, the animator ordinarily must draw thousands of images on many cels, and the cameramen's task of photographing them is an almost endless one. One hundred snowflakes in a 12-cel layout, for example, involves drawing and taking 1200 snowflakes. (A "bit," in the parlance of some animators, is a small segment of art work, usually repeated on a cel one at a time, such as a short line, dot, star, etc.).

The writer, who has had eighteen years' experience in animated film production, recently developed and used with success a one-cel complex animation technique to solve a difficult animation assignment. The basic technique, illustrated and explained here, has been successfully applied in the animation of six entirely different subjects.

Once the basic principle of the technique is understood by animators, it can prove useful in the execution of a wide variety of effects involving numerous and repetitive objects within a single frame area. In almost every case it can reduce the amount of animation required, cut camera time, and usually improve the effect itself by affording greater flexibility and the introduction of subtleties rarely used in the usual cycle back-up.

Although the technique becomes most exciting when applied to a complex situation, it is necessary to start out very simply. Let us take a very simple example such as used in many present-day technical films—a flow-through line. This may represent the flow of electrical current, liquid, concentration, or blood flow in a medical film. (Later on we shall explain how it can also be much more elaborate). In the old familiar form, it usually looks like Fig. 1. Here "slugs" are moved from left to right. The timing calls for a flow of four seconds from A to B. Thus, with eight slugs shot on 7's, the project can be animated with a 6-cell layout, with the animator rendering a total of 48 slugs.

("Slugs" are small uniform segments of color in a line drawn upon a cel, which animate to produce the aspect of continuous flow-line motion.)

Were the slugs to move straight across the frame, it would be possible to render one cel of slugs, then pan from left to right to get the desired effect. Where the slugs do not move in a straight line—but undulate or otherwise appear agitated—then panning cannot be employed. For an effect similar to the flow of water, for example, slugs cannot be employed to produce it.

To simplify the explanation, let us assume that the "line" in Fig. 1, which are $\frac{1}{2}$ " in length, are spaced $\frac{1}{4}$ " apart. This calls for transmitting the slugs from left to right at $\frac{1}{4}$ " per cel.

As shown in Fig. 2, an eight-cel hook-up would use bits advanced $\frac{1}{8}$ " to the right.

There is still another way to achieve the same effect (and later on it will be shown why it is worthwhile to use the latter technique). We have one cel with the same sort of bits. Obviously we can pan this cel from left to right at $\frac{1}{4}$ " increments. Instead, let us pan seven times the distance between each cel move, or $\frac{7}{8}$ " to the left. The result on the screen will show the bit advancing $\frac{1}{8}$ " to the right following each $\frac{7}{8}$ " move of the cel to the left. Here an extension of the cel beyond the frame is required to cover the distance panned, although it will not be shown in the illustration.

What we are doing, of course, is using the old familiar stroboscope effect. Like the conditions which produce the effect of wheels or propellers turning backwards in regular cinematography, this method replaces each bit with another bit in a slightly dif-



FIG. 4—As the cel is panned to the left seven eighths of an inch, the "bit" will move (on the screen) one-eighth inch to the right, and at the same time change their shape—that is, they will undulate.

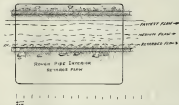


FIG. 5—A simple design that afforded some intricate activities in the animation. Using a simple cel, all the water lines animated at the proper speed rates, and all had the proper fluid quality. Little lines developed and decayed, and it was possible to speed up the flow action by decreasing the amount of pan.



FIG. 6—Because technique described by author creates an animated pattern, it is often desirable to pan the distance of two instead of a single "bit". Here the coordinates are in three different shapes, and all animate with three different lines of action. Now if the spacing used is one-inch, it will cause a "drifting" effect of the pictures if the panning is slightly more or less than one inch.



FIG. 7—Here the action is 90-degree away from the line of the pan. Four groups of papers are arranged downward from their source in the four piles below. All papers are animated fully, although the effect is accomplished by panning the cel horizontally.



FIG. 9.—Here, instead of employing horizontal or vertical panning action, the cut motion is circular, with the cut pivoting on a single point in the center. When related scenes—clockwise movement of a face each frame, a wide variety of effects is produced or simulated.

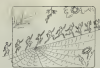


FIG. 10.—Simple solution of many figures. If spacing between figures is exactly one-half inch and cut is panned to left seven-eighths inch per exposure, all figures will advance to the right one-half inch.



FIG. 10A.—This produces an overall agitated pattern of molecules in motion, instead of panning cut, it was moved progressively to four layer positions within the drawing.

ferent position. On the screen, the bits move in the direction opposite the pan. Although this explanation may sound strange, the principle is really very simple, and logical; so let us consider the further value of this technique.

In our initial example (Fig. 1) all the bits were identical. Now were these bits each slightly different in size or shape, then each bit would not only move to the right, as before, but also change in shape—that is, it would advance. This is illustrated in Fig. 4. Here, as a cut is panned to the left $\frac{1}{8}$ " , the bits will move $\frac{1}{8}$ " to the right on the screen, at the same time changing their shape.

Until now, we have been concerned with a single line of bits representing a continuous horizontal flow pattern. Now let us examine Fig. 5 in which liquid is flowing through a pipe, but at varying rates of speed at different levels: the surface water moves rapidly while just below this level, it flows more slowly, and finally at the bottom the effect of friction against the pipe wall reduces the rate of flow still further. This complex illustration was successfully animated using but a sin-

Continued on Page 573

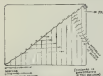


FIG. 13.—The diagonal wavy line will advance along a different diagonal if panning is done horizontally.



FIG. 11.—Only one cut was required to animate motion of molecules depending on a sound wave. With some 200 molecules on the screen and a complete passage of sound wave shown in sixteen frames, 3200 bits might be required with a complex animation plot.

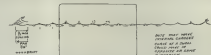


FIG. 12.—Here the object was to animate the water line and show a general drift. This can be a rather complex plotting job. How much better to simply consider what a single wavelike disturbance, animate it with all the little molecules, then space it over an area suitable. If the molecule is one-half inch, then panning should be at the rate of seven-eighths or nine-eighths of an inch. All waves will then drift and animate.

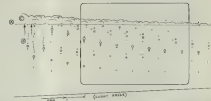


FIG. 14.—A variation of the technique described in Figs. 11, 12, and 13. The subject is the motion of a liquid (A) Squid level will rise; (B) bubbles animate upward; and (C) foam increases and animates.



1 NARRATOR OF TV commercial assumes pose where "freeze-action" begins; then his picture is drawn on ground glass of main camera set up alongside motion picture camera



2 IN ADDITION TO outline board on camera's ground glass, tape is placed on steps floor to indicate exact position of narrator's feet before the camera was stopped



3 DURING THE "freeze-action" interval, television receiver being plugged by narrator is placed on floor. Narrator then assumes former position and prepares to exit receiver's mouth.



4 AIDED BY verbal instructions of director observing ground glass viewing, narrator switches former position exactly, then resumes his prior talk as camera is started.

How Still Camera Can Aid "Freeze-Action" Lineups

Here's unique method for accurately re-positioning narrator in TV film commercial after camera is stopped to facilitate "pop-on" introduction of sponsor's product.

By ROY ZEPER

IF YOU WATCH the commercials on television, instead of going to the icebox for a cold beer during these intervals you have probably seen spot announcements in which the narrator, plugging some product, opens with a few brief remarks about it, then suddenly the product appears alongside him in the scene as if by magic.

Such cinematic legwork is accomplished in filmed commercials by stopping the motion picture camera in the midst of the narrator's spiel, having the narrator "freeze" until a stagehand or technician places the product in the scene, then resuming shooting. In the final filmed

Continued on Page 162



Everywhere in the world ...because it's on film!

REMEMBER... people are people—Guatemala, Salzburg, Rio—*everywhere*! They all "go to the movies"! And the things they like, they tell their friends about.

Because motion pictures are entertainment—entertainment for all people... something to enjoy... something to talk about! They take young and old out of their homes—out of the humdrum into the romantic!

The picture you see *today* is everywhere *tomorrow*. Because it's on film, it can go everywhere!

That's why production, especially, is such a responsibility. Why the Eastman Technical Service for Motion Picture Film is ready, at all times, to help in solving problems of the industry... film selection, production, processing, projection.

Branches are located at strategic centers. Inquiries invited.

Motion Picture Film Department
EASTMAN KODAK COMPANY
Rochester 4, N.Y.

East Coast Division
342 Madison Avenue
New York 17, N.Y.

Midwest Division
130 East Randolph Drive
Chicago 1, Ill.

West Coast Division
6726 Santa Monica Blvd.
Hollywood 38, Calif.

for the purchase of film,
W. J. German, Inc.

Agents for the sale and distribution of Eastman Professional
Motion Picture Films, Fort Lee, N.J., Chicago, Ill., Hollywood, Calif.



IF YOU have any doubts about the quality of 8mm sound and of the opportunities this medium is destined to open up for many in the film industry, drop in at your local Kodak dealer's and ask for a demonstration of the 8mm sound film which K-K dealers are now demonstrating on the Kodak Sound-8 Projector.

While the demonstration is aimed primarily at interesting amateur movie makers in the recently developed medium of 8mm sound film and its reproducing equipment, it is an impressive experience also for those in commercial, industrial and technical fields for whom this new development promises much.

Because early attempts of reproducing sound on slow-moving 8mm film left much to be desired, too many in the professional field of movie making have been inclined to underestimate the importance of more recent developments. The Eastman Kodak demonstration film proves that magnetically-recorded sound on 8mm film compares favorably with the best on the wider 16mm medium.

The impact of 8mm sound on amateur movie makers is expected to be phenomenal because of its relatively low cost compared with 16mm. But it promises much for those who have been using and/or producing 16mm sound films. While already many business firms have been utilizing 8mm silent films for product promotion, in-plant personnel training, research, and dealer sales, the addition of sound to such films promises to increase their value two-fold.

Sound is added to 8mm films in two ways—recorded on pre-stripped film as the picture is shot, using the recently introduced Fairchild 8mm sound camera, or by post-recording on a magnetic sound stripe applied to the film after processing.

The single-system method of recording sound as the picture is shot in 8mm holds much promise for technical and research operations where such recording has not been used heretofore because of the greater cost of 16mm or 35mm equipment, film and recording apparatus. Report films on projects, on highly classified operations, and of any subject where a quickly and inexpensively produced picture with *sync* sound is required that can be screened and then disposed of, if necessary—all this is possible with 8mm sound movies.

The commercial possibilities of 8mm sound films as well as the potentials the medium holds for industry and research are daily coming into sharper focus. The article that begins on this page deals with the primary markets of home entertainment, visual education, training, and recreation, and is the first of a two-part series designed to give readers a comprehensive picture of this new and promising motion picture development. The second article will deal with the application and uses to date of 8mm sound films in business and industry.—EDITOR



DESIGNED FOR 8mm magnetically sound film is the Kodak Sound-8 projector, which can also be used for recording. The sound stripe is applied to one edge of 8mm film after it is processed.

WHAT "POCKET BOOK" editions of novels did for the publishing industry in terms of increased readership, new sales outlets, and more business for writers and publishers, current 8mm sound film developments will probably do for the motion picture industry.

Within a few years, it is expected that use of 8mm sound motion pictures will spread from its present field, composed largely of amateur movie-making hobbyists, to wide use in homes, schools, colleges, clubs, public libraries and industry.

Families are expected to accumulate hi-fidelity 8mm reduction prints of motion picture classics for home projection, just as hi-fi enthusiasts now build libraries of symphonies, operas and jazz.

School markets for audio-visual education aids seem to be highly promising. There are at present about 200,000 16mm sound projectors in use in United States schools. This averages out to slightly more than one such facility per school. With the availability of lower-cost 8mm films and equipment, this figure should grow quickly.

Within the next few years, it will be feasible to provide an 8mm sound motion picture projector for every-other classroom (i.e., 1,000,000 for 2,000,000 classrooms)—at no great increase in the over-all budget.

A number of public libraries presently show 16mm movies in sound and color during children's story hours. Some also use films as audio-visual aids in adult education. The development of 8mm sound could open up this kind of entertainment-plus-education for many libraries which presently cannot afford such film collections. About 75 public libraries in the United States have their own collections of 16mm movies which are loaned on library cards, and some 200 others belong to cooperative film circuits which enable them to provide a film circulating service. Sound films in 8mm can be expected to increase the number of libraries circulating movies, especially as

8MM COMES OF AGE

Up from the ranks of amateur movies comes 8mm with a sound track added to become a potent new audio-visual tool with wide potentials.

By JOHN FORBES

the number of families owning 8mm-sound projectors begins to increase.

The 8mm prospect as it now shapes up is primarily one of perfecting the technique of reduction-print reduction from 35mm and 16mm originals to 8mm. Cameramen will be able to afford a bigger shooting budget in 16mm because of the savings on release prints. More, rather than less, use of standard 16mm and 35mm shooting technique would therefore appear to be the outlook for the film industry with the growth of 8mm sound.

As easier, easier to carry, inexpensive 8mm sound projectors make the film medium even more attractive as a communications vehicle, and as economies are realized through the smaller, more compact size 8mm film, there is every reason to believe that the current annual \$167-million investment in non-theatrical and audio-visual film production will swell substantially.

Some firms in the motion picture industry are already tooling up to make commercial quality 8mm sound movies a reality. A significant factor in these developments is the new 8mm sound projector produced by Eastman Kodak Company. It records and reproduces magnetic sound on a sound stripe applied to the film.

This new projector will utilize existing and new 16mm and 35mm productions in reduction-print 8mm movies. The same applies for other 8mm projectors also being marketed.

One of the pioneers in the 8mm sound motion picture field is the Calvin Company Inc. of Kansas City, Mo. In 1952, Lloyd Thompson, vice president for engineering at Calvin, conceived the idea of an 8mm magnetic-stripe projector. The company built the Movie Sound 8 and marketed between 1,000 and 1,200 machines from 1952-54. The projectors were sold mainly to amateurs and could be used to put sound on film, just as is done with today's 8mm sound projectors.

Although Calvin stopped production of the projector in 1954, they are still reduction-printing 8mm sound films from 16mm on an experimental basis. They are presently moving to mass production status in reduction printing and recording.

The Calvin Company is interested, basically, in the

industrial use of the 8mm film. The company emphasizes that no one yet knows the entire market potential of 8mm sound, but thinks the price of processing, which is a little more than half the cost for 16mm, the lower price of the projectors, and cost of shipping prints, which will weigh a quarter as much as 16mm, should influence the trend.

A number of companies are developing methods and techniques for reducing 16mm and 35mm subjects to 8mm. The most novel reduction process consists of four-stop-time printing on 35mm stock previously perforated for slitting into four separate 8mm films. A variant consists of printing on specially perforated 16mm stock, giving two 8mm subjects side-by-side which are then separated by slitting down the middle.

Walt Disney Productions is "keeping an eye" on developments and is keenly interested in the potentialities of 8mm sound films. The studio has several things in mind in the event 8mm sound develops as big as now appears likely. Reduction of some of the company's cartoons, musicals and features to 8mm for club, school and home rental or sale is one of the possibilities.

Hollywood Film Enterprises expects 8mm sound film business to be very big in the next year or two. Very

Continued On Page 545



KODAK'S MOVIE FARM cameramen shoot movies in 16mm color which are reduction-printed to 8mm for sale to children. As more 8mm sound projectors go into use, some films will be made available with sound consisting of narration, music and sound effects.



FIG. 1—Bell & Howell 16mm camera with Rapromatic Magazine attached. It is Raproroll processing strip which winds with film on spool B.



FIG. 2—Rapromatic-400 portable processor opened to show how processing web strip A is combined with film B at point of sandwich at right.

Simple system adaptable to most 16mm, 35mm, and 70mm cameras.

IT WAS INEVITABLE, following success of the Land Polexoid camera, that ultimately a method for automatic 60-second processing of film to motion picture cameras would evolve. Perfecting a method of sandwiching the required processing chemicals between runs of the film was a relatively simple matter, and now Rapromatic, Inc., of Syosset, Long Island, N.Y., offers equipment which permits processing of 16mm, 35mm, or 70mm film in a camera as you shoot. The equipment consists of Raproroll, the film processing medium, and Rapromatic processors and processing film magazines.

Raproroll processing is an unique mechanical technique for applying a processing solution to the emulsion of a film by sandwiching the photographic material with a paper web saturated with appropriate photo chemicals. Used in a magazine unit, negative film is developed and fixed as footage is shot. There are no dripping fluids; the camera remains perfectly dry at all times.

Raproroll is the paper web mentioned above. It is a chemically per-saturated paper material in roll form that fits neatly into the Rapromatic Magazine or Rapromatic-400 processor. By a mechanical squeezing action as the point of sandwich formation with the film, it develops and fixes film on contact as footage is being shot. The quantity of the solution is accurately controlled by the thickness, composition, and wind tension of the paper web.

The company's Rapromatic Magazine converts any 16mm, 35mm or 70mm roll film motion picture camera into a processing laboratory. Or standard camera magazines can be modified for the process by the addition of a spring-loaded roller.

Additionally, there is the Rapromatic-400 portable processor designed for field operation or where power or water is limited. Operable by motor or

hand crank, it will develop film at the rate of 50 feet per minute. The equipment is pictured in Fig. 2. Here the processor is opened to show both its simplicity and the method by which the processing web strip is automatically sandwiched with the film strip.

Fig. 1 shows a Bell & Howell 16mm camera with Rapromatic Magazine attached. On the upper spindle is the Raproroll pre-saturated paper material that is sandwiched with the film as it is rolled up on the lower spindle, where it is taken up following its emergence from the camera.

The existing process produces a developed and fixed negative image from reversal film and is applicable to a wide range of emulsions. Current production Raprorolls, however, will process only DuPont 931 and Eastman Kodak P16-X reversal films. Price per 112-ft. roll is \$4.95 for 16mm, \$5.45 for 35mm, and \$13.95 for 70mm. The material is packaged in airtight, heat-sealable envelopes for long shelf life.

Tests on Raprorolls conducted by the manufacturer or under their supervision produced the following results:

Low Temperature: 20 hrs. at -10° F., return to 68° F. Processing results normal.

High Temperature: 18 hrs. at 100° F., return to 68° F. Processing results normal.

Altitude (In special military pack): 15 min. at 0.7 lbs./sq. in. the subsequent processing results normal.

Raproroll's processing performance with the above-named reversal films is shown in the following table:

FOOTAGE	PROCESSING TIME	ALTITUDE	TEMPERATURE	EXPOSURE	ISO SPEED	CONTRAST
100	20 sec.	70'	+5°	25	0.25	1.0-0.6
100	20 sec.	70'	+5°	25	0.25	2.1-1.0
100	20 sec.	70'	+5°	25	0.4	2.0-1.3
100	40 sec.	70'	+5°	40	0.25	1.0-0.6
100	110 sec.	70'	+5°	100	0.25	2.1-0.9
Processing: Normal. *Low Contrast **Medium Contrast ***High Contrast						

Continued on Page 172

PROCESS FILM AS YOU SHOOT



When you think of editing equipment...think of Hollywood Film Company

designers and manufacturers of film, instrumentation and video tape editing equipment

956 n.eward st. • hollywood 38, california • ho 2-3284 • 524 w. 43rd street • new york 36, new york • lo 5-1546



ON LOCATION—Cinematographer Daniel Fapp, standing on his heels in the snow, awaits Producer-Director Hal Burtlett's okay to roll scenes. Burtlett, kneeling in foreground, is giving instructions to actor preparing

to play dying Marine Officer, for a scene for Columbia Pictures' "All The Young Men." Kneeling at left is Alex Ladd while directly behind Burtlett is actor Sidney Poitier.

You can't possibly read an overall snow composition with a reflected light meter and get any kind of accuracy, according to Daniel Fapp, ASC, whose snowscape exteriors highlight the photography of

"All The Young Men"

By HERB A. LIGHTMAN

AUDiences viewing "All The Young Men," Hal Burtlett's latest production for Columbia release, will see a taut drama dealing with the conflicts (both inter-racial and intra-racial) of a Marine patrol trapped in a crucial position during the Korean war. They will be impressed by the film's smooth continuity and the spectacular photography of the snow-covered mountain locales against which the action is

played—a vast white vista of alien wilderness that presents almost as tangible a threat as the human enemy. In between the suspenseful sequences based upon the racial integration struggle, as symbolized by Alex Ladd and Sidney Poitier, they will be amazed by the breezy satires of such improbable Marine types as ex-heavyweight boxing champion Layman Johnson and the hungry intellectual's favorite comic,

Monty Sahl.

Viewing this hard-hitting action drama in its final polished form, audiences will have any inkling of the technical problems which plagued the project constantly during production. The unusually smooth result that appears on the screen is attributable largely to the imagination and resourcefulness of Director of Photography Daniel Fapp, ASC. A

strong statement? Not when you consider the unusual and unpredictable situations that were encountered during production and which were so mounted insofar as photography was concerned.

Fapp, a soft-spoken veteran of the camera, is not a man easily rocked by crisis. He conveys the impression that neither flood, fire, famine nor earthquake could keep his camera from grinding. The problems he encountered in shooting "All The Young Men" he shrugs off as "all in the day's work."

Initial shooting on the picture began last October. A spectacular location had been selected at St. Mary, Montana—at the very eastern gate of Glacier National Park, just 17 miles from the Canadian border. Piped in Hollywood for the count-down, a cast and crew of seventy waited for word that it was snowing in Montana and then set off for the location via chartered plane. They arrived just in time to see the last of the snow melt away.

They waited around for two weeks praying for more snow. Local Indians, jocular types, said: "You're too early—this is Indian Summer." They tried to shoot a sequence high up on Logan Pass where a minute patch of crinkled snow still existed, but the clouds closed in so heavily they couldn't even find each other in the fog. Finally their prayers were answered. The ensuing blizzard dumped tons of snow on the treacherous road leading to Logan Pass, making it completely in-



DANIEL FAPP, ASC

Photographed "All The Young Men," then "Let's Make Love," starring Marilyn Monroe; is now shooting "Wild Side Story" as Allen and Eugene Coker

accessible. Ironically there was no snow at all in the lower reaches where the company had planned to shoot. To add insult to injury, a 70-mile gale struck the Kootenai farmhouse set which had been constructed nearby and blew it flat. Convinced that the Fates were against them, the crew and cast flew back to Hollywood and moved onto a sound stage blanketed with tons of silicone that simulated the snow which had eluded them on location.

After a period of sound-stage shooting in a wilderness of prop trees and paper mache' mountains, word arrived that there was snow at Mt. Hood,

Oregon. The company packed its long johns, climbed into the chartered planes and headed North. Sure enough, it was snowing and everyone sat around in the lodge for four days and watched the white stuff come down. On the fifth day came Indian Summer and a gentle rain that gently washed all the snow away. So, back again to Hollywood and the sanctuary of the sound stage.

But producer Bartlett refused to give up in his crusade for realism. Again the magic words on the telephone—again the long-johns, the chartered planes and Mt. Hood, Oregon. This time there was snow alright, but it was melting fast. There were other problems, too—like finding a place to shoot. Mt. Hood is a very fine mountain as mountains go, but it goes straight up like an inverted ice cream cone and there are very few flat areas at the base where one can get a camera-angle without having a ski-lift clutter the composition. This dilemma eventually produced what was, even to blasé Hollywood technicians, a fairly offbeat phenomenon: a tank battle filmed in a parking lot.

A dramatic sequence of the film has Alan Ladd and another similarly brave Marine attacking an enemy tank with nothing but their "Balls of Montezuma" and a hastily improvised Molotov-cocktail. During the ensuing melee, Ladd (a single-footed type) falls beneath the tracks of the tank. One of his legs is mangled—thus setting

Continued on Page 168



ABOVE SCENES are typical "winter-warriors" photographed on the sound stage on which the lighting was carefully executed in order to



permit smooth intercutting of scenes with actual exteriors shot on location at St. Mary, Montana and Mt. Hood, Oregon.

College Film Makers

How Graduate Workshop Students of the University of Southern California's Cinema Department organized and produced "Tomorrow May Be Dying," 16mm film dealing with problem of teen-age dope addicts.

By CHARLES LORINO

MOTION PICTURE PRODUCTION is an enormously complex craft involving a multitude of highly technical skills, which cannot effectively be taught by lecture or reference to written texts. The artful techniques of the cinema can only be learned by doing—by actually working with film, cameras, sound recorders and the many other technical tools of the industry.

Acutely aware of all this is the University of Southern California, whose Cinema Department is recognized one of the outstanding fountainsheads of technically-trained film production talent in this country. USC Cinema Department's policy is to encourage Graduate Workshop students to undertake filming projects with fully-organized production crews assembled from its student body.

Notable for the recognition won to date both by several of its students and the films produced by them, USC's Cinema Department was recently acclaimed for a timely, head-biting 25-minute 16mm film, "Tomorrow May Be Dying," dealing with teen-age dope addiction. Unlike theoretical films on this subject, this college-produced film does not exploit the problem in a cheap and sensational manner. Its story is told directly, revealingly, and without moral preachment.

Its impact is especially headable when we consider the rough road which the average college film production must travel. Invariably there are not the money spent stages nor the highly-experienced technicians found in the major studios; and the biggest problem of all is getting all members of cast and crew together at one time, due to their scholastic commitments.

DIRECTOR Russ Thomas gives last-minute instructions to student-actor Bill Preston (below wheel) before shooting scene for "Tomorrow May Be Dying," student film production of the Cinema Department of University of Southern California. In background is Bob Lee, cameraman.



These were the major handicaps encountered by the student group that set out to film "Tomorrow May Be Dying" under the direction of its co-author, graduate-student Ramon Thomas. (Thomas was honored in 1959 by the Hollywood Screen Directors Guild with a Scholarship which the Guild presents annually to college students majoring in motion picture screen direction).

Only one set, built by students, was constructed on the Cinema Department's sound stage; the rest of the picture was shot on locations. One of these was a house at Malibu Beach which provided living room and bedroom sets, plus an exterior, here recording was complicated by the sound of surf crashing on the nearby beach.

Sync sound was recorded on all set-ups; nothing was dubbed save a few sound effects. All dialogue scenes were shot with a Loren Mitchell camera, with a Stencil-Hoffman Model S-6 tape recorder recording the dialogue. Silent and pick-up shots were made with a Cine Special camera, which proved especially adaptable to shooting a series of scenes of a couple in a convertible. Here the camera was mounted on the back seat of the car. Lighting on the players' face was provided by a conventional "light-bar" on which was mounted four automobile headlight lamps backed by a bell reflector. The lamps were operated from an auxiliary 12-volt battery. When profile shots of the driver were required, fill light was supplied by a lamp which he held on his lap, out of camera range.

Lighting, of course, was no problem on the University's sound stage. Here current was fed to ten junction boxes having outputs of 50 amps. The previously-mentioned set was lighted with 3 Sennos, 6 Janiers, 12 Baby Spots, 4 Single Bonds, and one Sky Pin. For location lighting see:

Continued on Page 341



NOISEN MOVIES are part of up-to-date equipment used by USC students in completing workshop film productions. Here film editor Peter Hanson watches scene unfold on Moviola screen.



CAMERAMAN (left) examines (center) light meter to check illuminations for scene being rehearsed with actress Page Parodi by director Ramon Thomas.



THE CAMERA IS rolling and soundman and art manager Peter Clark monitors sound as it is being tape-recorded for "Tomorrow May Be Dying," intensely student film production.



IN CORNER OF University's sound stage, student musicians record music score for "Tomorrow May Be Dying." Ideas for dealing with teen-age narcotic addiction.



ONE CINE SPECIAL camera, visible at lower left, was mounted over the horizon of a 21-foot cruiser to make near under-level shots of the Larson lightless hull in distance.



ANOTHER CINE SPECIAL was tripod-mounted atop cabin cruiser used for photography. Here, this diver cameraman, who made underwater shots, and is checking the boat.

Video Tape Speeds Production Of Filmed TV Commercials

VTR proves helpful adjunct to film instead of a threat.

By JOSEPH HENRY

UNTIL RECENTLY, video tape was considered anything but beneficial to the film industry. Now tape and film are being integrated more and more in the production of program material for television, with each medium taking nothing away from the other but rather complementing it.

One film producer who has used video tape successfully as an adjunct to production is Tom Countryman, President of Countryman Film Productions, Minneapolis, Minn. Recently he set a precedent among film producers in his area by utilizing VTR in the first phase of producing three filmed television commercials for Larson Boat, makers of a popular line of pleasure craft. The company's advertising agency, Pidgeon, Savage & Lewis, had come to Countryman with the problem: one 60-second and two 30-second spots were needed for airing on the west coast in exactly ten days.

Because the commercials were to be shot on location, the ten-day time limit

posed a problem: it left insufficient time for the final phase of film processing, recording the track and executing the limited number of optical effects required. In fact normal laboratory work on the film could consume

the greater part of the time budget. Then it was that Countryman utilized video tape recording in an unusual hybrid operation to complete the commercials.

Here is the story, in a day-to-day account of the project:

Wednesday, May 4: WCCO-TV's art director Bob Edwards outlined the project.

Thursday noon: Story boards were delivered to the agency.

Friday, 4:00 p.m.: The agency gave Countryman the "go-ahead."

Saturday: Locations were scouted, and models given a call for 9:00 A.M. Sunday.

Sunday: Despite gusty winds a ten-

VIEWING PLAYBACK of video-taped Larson Boat commercials was, L to R, ad agency director Bob Pidgeon, film producer Tom Countryman, and WCCO-TV video news manager Frank Butler.



perature of 53 degrees, all scenes were shot, including:

- 1) a guitar-playing water skier,
- 2) a group outing of four people on the boat,
- 3) boat action scenes,
- 4) specific features of the boat.

For photography, two Cine-Special cameras were mounted on a 21-foot crane—one atop the cabin for high-angle shots, and the other over the tresson for action shots of the Larson leaping hall. Approximately 800 feet of 16mm film was exposed.

Monday: The film was processed.

Monday night: The original film was screened and takes were chosen, then pulled from the master reel for printing.

Tuesday morning: While 16mm prints were being made by the labor-

atory from selected takes, the narration was recorded and the required music recorded for dubbing.

Tuesday afternoon: Another trip to the lake location to record realistic sound effects of the motors, etc.

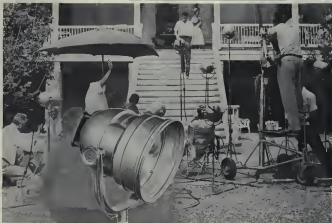
Tuesday night: The film was edited into A-and-B rolls, with sufficient overlap allowed between scenes to permit the TV director to call the scene changes and add optical effects by means of the electronic special effects board at the TV studio.

Wednesday afternoon: The reels of edited picture film, the magnetic sound film and a magnetic film recorder were taken by Courtyman to WCCO-TV for the video tape recording session. The two reels of film were threaded on two synchronous beam projectors mounted before TV camera pickups in the con-

trol room. The sound recorder, playing back the tape, was out in to the station's audio chain. In the studio, one live TV camera and a studio card bearing the Larson Boat logo stood by to close the spots.

A count-down system was established to roll the two film projectors and the sound recorder simultaneously. The director, sitting at the video control panel and working from a script, called the changes and selected the picture as he watched the monitors before him. After two rehearsals, the third try was a perfect "take" of all three commercials. Immediately following video taping, two tape tapes were made from the master and turned over to the agency for shipment that same night.

Continued on Page 5F4



CineKing
LIGHT: 5K.
WEIGHT: 6lbs.

On location at Baton Rouge, La., the 20th Century Fox release "Desire in the Dust," featuring Raymond Burr and Madge Hyer, directed by William Claxton.

Shot in Cinemascope, using the new CineKing Lights by ColorTran. With the ColorTran Converter each CineKing will equal the performance of a conventional 5000 watt studio key light... yet weighs but 6 pounds!

The new CineKing head was designed to replace the obsolete Masterlites to provide 360 degree beam control, better insulation and in-line switching. Par 64 or Par 56 lamps are used.



ColorTran

MANUFACTURED BY NATURAL LIGHTING CORPORATION • 430 SOUTH FLOWER STREET • BURBANK, CALIFORNIA

High adventure in filming

Deep Sea Fishing

By RICHARD CLINE

Richard Cline Film Producer, Englewood, Colo.



TELEPHOTO LENS on tripod-mounted Cine Special camera working under its capricious mechanical steering when all hooked deep sea fish in action.

Few sports, perhaps, provide such wonderful material for thrilling screen fare as deep sea fishing. Films about fishing rate high in the entertainment demands of clubs, sports shows, and the film sources that supply such entertainment.

My initiation into the field of sports film production began several years ago when Jim Haywood, the *Deerfoot's* Bowling Fisherman, came to our studio with the proposal that we film some of his fishing adventures for use in sports show programs.

Haywood spends a great deal of time traveling around the country in quest of material for his newspaper articles and sports show presentations. His favorite fishing haunts, however, are located on the Gulf of California, in Mexico. Here the Gulf waters are a fisherman's paradise. They provide excellent deep sea, surf, and inshore fishing in settings backdropped by Mexico's rugged and colorful west coast terrain.

Haywood's fishing venture was to take us to Mazatlan, on Mexico's west coast—a picturesque port and resort city about 350 miles south of Nogales, Arizona. So last November Bob Zoller, an ex-newsreel cameraman, and I ac-

companied Haywood and his wife, Jane, to Mazatlan.

Our filming equipment included a Cine Kodak-Special II with a complement of lenses ranging from 15mm to 100mm, several 100-ft. film magazines, a sturdy tripod—and for hand-held shots we also brought along a Bell & Howell 36DL with interchangeable wide-angle and 25mm lenses. Our film supply consisted of 10,000 feet of

16mm Kodachrome. All this was carefully packed in three sturdy carrying cases for safety and easy portage.

Since we had arrived in Mazatlan toward the end of the marlin and sailfish season, we set out immediately to photograph these billfish in deep sea sequences, which proved to be an exciting and sometimes dangerous undertaking.

A boat was chartered and our first



NEWSPAPERMAN Jim Haywood fights a marlin in waters off coast of Mazatlan, Mexico. Haywood, also known as the "Deerfoot Paul," brings Fisherman, engaged earlier to photograph his fishing adventures in 16mm color for screening at many of the sportsman's shows held annually throughout the U. S.

concern was where to set up the tripod-mounted camera where it would least interfere with the crew members and anglers—especially when there was “a fish on”—and at the same time enable us to cover the action.

The Cine Special, on a tripod, was set up amidships, near the Captain's side of the boat. In this position, we could cover action taking place in the fighting chains aft. The Bell & Howell was kept ready at all times for hand-held shots whenever the situation demanded.

A typical day's shooting was pretty much as follows: during the early morning hours out to sea, one crew member prepared the bait—usually walleye—for trolling. Our cameras covered this intricate deboning and sewing process, and then we made shots of the bait trolling in the water and of the "trawler" skimming the surface nearby. The latter is a brightly colored wood belly about a foot long designed to attract fish to the bait. Following this, establishing shots were made of seals in action in the fishing chain.

Following the completion of these shots, a dolphin suddenly appeared and took the bait, and the ensuing action gave us a chance to "dry run" our camera technique on the sort of action we anticipated would occur momentarily with a bigger game fish on the line.

A Fish Strike?

Suddenly we heard the cry of "fin!" and "pescado!". Everyone immediately galvanized into action. A bill fish had been sighted. The Cine Special was focused on the trolling bait. If conditions were right and luck was with us, a marlin or sailfish would be attracted by the teaser and would move readily in to look things over.

Usually, when a bill fish sights the bait, he looks out with his long bill and strikes one or both of the trailing tid-bins. (There are invariably two lines in the water on a cove like this, where the boat has dual fighting chairs mounted aft.) If the fishing lines are attached to outriggers, they will be snapped free of the retaining pins and fall slack in the water the moment the fish strikes. At this point the fish, thinking it has stunned its prey, will gobble the bait and take off with it.

Whenever such action took place, we snatched up the Filmo camera to cover it as only one can with a hand-held camera. The action is too swift and un-

predictable to trust to a tripod-mounted camera. We framed the angler and started the camera rolling, for we knew that when the hooked fish went up all the line slack, the angler would "set" the hook several times by pulling back on the line, and then all hell would break loose!

The game fish are unpredictable when hooked. Usually one of two things will happen. It will make a mad dash away from the boat at a speed estimated up to 50 miles per hour; or it may stop short and make a series of jumps in an effort to throw the hook. In either case, the action means spectacular movie footage.

Ref:M Camera Used Hand-held

Whenever such situations occurred, we used the Bell & Howell camera to get shots of the angler sweating in the chair; of the best rod; and closeups of the screaming reel with the line smoking as it runs out at the terrific pace set by the enraged fish. When a fish elected to stop short and put on its jumping act, we used the Cine Special with a telephoto lens to capture the fish's performance close up.

Once the fish is caught, it's usually slave labor for the angler. A big game fish may weigh anywhere from 60 to 600 pounds, and it isn't going to be hoisted in a hurry—which affords time to shoot some interesting footage of the angler's battle to land him.

Whenever a hooked fish tried his jumping and "tail-walking" antics in an effort to get free of the hook, we kept the Cine Specialist's telephoto trained on him every second. This sense of action makes thrilling screen fare, and provided the highlights of our deep sea fishing adventure. But the hooked fish is not always the star of the show, for it is the angler who has mastered him and now seeks to bring him to gaff. Fishermen who have experienced deep-sea angling seem to enjoy watching another angler sweat it out with a hooked fish—on the screen. Perhaps it reminds them of similar encounters and the aching muscles and blistered hands—the price for their unforgetable experiences. So we concentrated on picturing our anglers as they played with their catch and sought, with every trick in the book, to bring it to gaff. There were closeups of facial expressions, a shot of sweat-stained shirts, of arm muscles knotted in the strain of handling the sole, and

Continued on Page 54d

NEW

TIME LAPSE CAMERA MOTOR

BUILT BY MEN WITH YEARS OF EXPERIENCE

STOP WATCH TIME
60-120 SEC.



NEPTUNE 5-0000

ONE YEAR WARRANTY

1. POWERFUL MOTOR WITH INTERNAL BRAKE
IN ALUMINUM CASE

2. MOTOR SWITCH (INTERMITTENT) CONTROLLER

3. LIGHT SWITCH (INTERMITTENT) CONTROLLER

4. LIGHT FOR SUBJECT ONLY

5. REMOTE CONTROL (SHUTTER SPEED) OF 1/2500

6. REMOTE CONTROL (SHUTTER SPEED) ON BOTTOM

7. CONNECTS WITH CAMERA BY PLASTIC TUBING

ROLAB

PHOTO-RECORDING LABORATORY

BABY KODAK, CONNECTIVE

OTHER KODAK PRODUCTS: THERMAL FILMS
ELECTRO-RECORDING FILMS, PHOTOGRAPHIC FILMS
ELECTRO-RECORDING FILMS, PHOTOGRAPHIC FILMS





THREE AND
ONE HALF
IN. DIA.
1/2 IN. DIA.
HOLE

1/2 IN. DIA. 1/2 IN. DIA.
HOLE

\$1.00 \$1.00

AT YOUR ROLAB OR AT ROLAB PHOTO-RECORDING LABORATORY

FOR SALE
MONTANA LOG-CABIN HOME

Spectacular setting adjoining Gallatin National Forest. Located 24 miles from Livingston, Montana. Large main cabin with fireplace, large picture window. Two guest cabins, baths, completely and nicely furnished. Sleeps six. Sheds. Piped spring water. Will sacrifice, \$18,000.00.

CHARLES HERBERT, ASC
Missoula, Montana



Water and Solution
FILTERS
New low prices
Zincless Steel
or
Plastic
3 to 30 g.p.m.
Single or Multiple
Pre-heating, pre-heating
New and Used
Write for information
METAL MASTERS
5199 University Ave., San Diego 5, Calif.

How "The Golden Fish" Was Filmed

Not one special effect was used in making this clever French film,
notable for its photographic ingenuity and originality.

By JEAN BELANGER



FISH FISHES! develops between boy and goldfish won in a lottery.



WHILE BOY is away at school, prowling cat enters his room.



CAT STRIVES to reach goldfish but is dissuaded by covey who tells cat of boy's fondness for the pet.

"THE GOLDEN FISH," the French short film released in the United States through Columbia Pictures, has been widely acclaimed as a brilliant film-making achievement.

The story is about a beautiful goldfish won in a lottery by a poor boy. Back home, he puts it in a glass bowl and becomes deeply attached to it. The fish makes friends with a canary kept in the same room, and dances to its songs so spiritedly that one day it jumps out of the water. A wretched-looking cat on the pond who then comes into the room is about to eat it. But when the canary pleads that the fish is the little boy's only joy, the cat picks up the fish and returns it to its bowl. Returning from school, the boy once again enjoys the sight of his beloved goldfish, unaware of its near-dreadful experience.

Delighted spectators wonder what cinematic secrets were involved to produce this exquisite blend of realism and poetry. They may think of matte, superimposes, etc. Well, there are none of these. Not one special effect has been used in the whole film. Direc-

tor Edmond Sechan, who kindly told me "all about it," used only his camera, but with what ingenuity and originality! Sechan has a thorough knowledge of what can be done with a motion picture camera, having brilliantly directed the photography of many short and feature films to date. (He has just finished, as a director, a feature film in which animals again play an important part.)

Sechan chose his animal actors very carefully. When on the screen we see the cat and the fish, actually only one cat was used; but several goldfish (indistinguishable from each other played the part of the fish. Approximately two hundred were bought by the producer, and from these about twenty were selected, following tests conducted to eliminate those which developed visual troubles when working under the lights. When thus affected, some of the fish stubbornly remained motionless at the bottom of the glass bowl; others meaningfully swam around and around, while still others became startled and jumped out of the water! One goldfish among the chosen few proved so stable



INTERESTING MOMENTS during the filming of "The Golden Fish." Arranging plastic divider in aquarium in photo, above left, is Edmond Sechan, director. Others are cameraman M. Desail (left) and his assistant, M. Dubois. In adjacent photo, Goupil is preparing his red Ed bowl for special rotating action shot. An Arriflex camera was used for photography.



and well-adjusted that it was able to appear in about half the film.

The scenes in which the goldfish "dances" were filmed in a small aquarium lined with two plexiglass sheets, which, while they were invisible, made a sort of channel along which the fish was obliged to swim. Here jets of water sent from the bottom lifted the fish more or less rhythmically and created the illusion of its dancing.

A glass bowl had to be provided whose shape did not reflect the light inconveniently for fish or camera. For some scenes this bowl was mounted as part of a rigid system made up of a background, the bowl (with the fish) tightly closed and so filled with water that no bubbles were produced, the camera, and the lights. The whole set-up could be rotated on a horizontal axis. When rotated, the water—owing to its inertia—and the fish did not move at first. Thus the camera was actually turning around the motionless fish. On the screen the fish appears to be turning 'round and 'round.

When, after quick rotation, the set-up was suddenly stopped, the fish made odd motions because it was then swimming "upstream," trying to keep in the middle of the bowl where the water was quieter.

The cat was chosen from among a number of strays which are harbored by the French Society for the Prevention of Cruelty to Animals. With an eye on possible complaints from tender-hearted spectators who might object to a mangy cat having been used in a film, Suchan selected a perfectly healthy animal. Under his instructions a veterinary surgeon who examined the animal had certified her to be in good health, then cut her fur in places so as to produce the required mangy appearance.

To capture the cat's looks and expressions, very short shots of her were taken, at the same time gradually changing the camera axis. Cuts of only six to eight frames of each shot were used at a time, when editing the film, to produce the desired visual effect.

One of the highlights of the picture is the extraordinary scene in which the cat takes the fish in her mouth and drops it into the bowl following the country's plea to spare it.

To make these shots a small sheet of plexiglass was mounted level with the surface of the water in the bowl. Chopped meat was then placed several times on the plexiglass sheet and the cat trained to eat her food there. Then



Most of our clients . . .





... stay with us.

- Sound • Editorial
- Laboratory Services


Capital

CAPITAL FILM LABORATORIES, INC.
 3005 FAIRVIEW AVENUE, N.E.
 WASHINGTON 2, D. C.
 PHONE LAWRENCE 8-4086

another sheet of plexiglass was placed vertically, which let the light come through and kept the cat in camera range.

The three main shots in this sequence were filmed as follows:

1. A dead goldfish was placed on the table (on which the bowl stood). The cat took it, lifted it and moved to the right.

2. Filmed in reverse was action showing the cat taking a goldfish which was held out to him above the bowl. On the screen the cat is seen moving forward with the fish in her mouth.

3. The camera was then fired up to shoot the bowl above it. The plexiglass sheet, level with the surface of the water, was invisible.

On the edge of the plexiglass sheet a live goldfish, doubling for its pseudocousin, was placed. When the cat moved forward, it caused the fish to fall into the bowl.

Carefully calculated camera angles

and sharp cutting made the three shots interact perfectly to provide the desired illusion of a persistent tabby returning the fish to the safety of its bowl.

Including unscheduled interruptions, filming of the picture required several months' time. All the interiors were shot in one of the production offices, which was decorated and furnished to appear as a living room. An Arriflex camera was used for all photography. Lighting was provided by a single source—a bank of fifteen 500-watt globes—which produced a quality of illumination that simulated the soft light coming through a window.

The part of the boy who owned the goldfish was played by a young Vietnamese. As reward for her long work as first of the camera—an hour or more each time over a three-month period—the cat was sent to the Riviera. There, in the sunny Monaco gardens of Côté Cocteau, the producer, she enjoys her leisure in pleasure and plenty—like a retired film star. *

STILL CAMERA AIDS "FREEZE-ACTION" LINEUPS

Continued from Page 543

result, if it is properly done, the narrator's position appears unchanged as the product is introduced. If there is a "jump" in his position as the product appears, some of the desired effect in the presentation is lost.

Such a technical flaw can be avoided if a reliable guide is utilized for re-positioning the narrator following the interval when he was interrupted and the product moved onto the set. A simple guide of this sort can be provided by a view camera set up alongside the motion picture camera on the stage.

The scene is composed so that it includes the narrator's position preceding the "pop-on" of the product. The scene is recorded up to this point, then the camera stopped as the narrator "freezes" in his position. He maintains his position just long enough to enable an assistant to trace an outline of his figure upon the ground-glass of the view camera, as shown in accompanying photos. If his feet are not included in the scene, their position is marked on the floor with tape. If his feet have been included, small tracks driven into the floor serve as inconspicuous markers.

After the product is introduced—

such as the television set in the example illustrated—the narrator resumes his former position guided by the floor marks and also by an observer viewing the outline upon the camera ground glass. When the narrator has assumed the precise position, the motion picture camera is started, the narrator continues his product pitch, and the action is photographed to its conclusion. In editing, the intermediate frames are deleted so that any change in tempo of action appears as a normal piece of the narration.

"Freeze-action," of course is not a new movie making trick. Its been around since the days of Mack Sennett's Keystone comedies. Amateur movie makers have employed it; and when television's product pushers sought a simple means of introducing a product suddenly and magically on the screen without having to employ costly special effects, they reached back for this old reliable and easy-to-do effect. The use of a view camera for lining up a key element in a scene—the commercial narrator in the case illustrated—is, as far as I know, a method not too well known and one which can be used whenever a trick effect calls for subject re-alignment.

An object can be made to appear in another setting, remaining in the same position in the film frame. An actor can suddenly acquire a change of clothes, or change of apparent age. This effect can be carried to extremes through the use of added makeup plus a series of dissolves between the age-changing cycles.

Carrying the idea further—visualize a room with a number of actors in various positions. Suddenly, the room changes and becomes (through a dissolve) another room, but the actors remain in the same fixed positions, as though miraculously "transplanted." In accomplishing such an effect, both the motion picture and still cameras would have to be tied down to maintain their fixed positions, while the set was being re-decorated for the second phase of the scene. Positions of all the actors, of course, would be traced on the view camera ground glass, as before, and there would be the usual floor marks to indicate where they are to stand.

Effects such as described above are being considered more and more by writers and producers of industrial, training and educational films where it is desired to give special visual impact to a product, procedure, company name, motto, etc. The technique is especially applicable to those areas of motion picture production because it is a money-saving method of embellishing a film with what seasoned professionals like to call "production value."

COLLEGE FILM MAKERS

Continued from Page 552

real Junction were used plus Baby Spots and Brouds suggested by a Genevieve unit and two ColorTran kits. At the Malibu location, 100 amps of current was available and this was cabled from the main source to a spider box feeding several tributary cables. On other locations, ColorTran lights and their converters were fed directly from conventional wall outlets.

Approximately 5,000 feet of 16mm negative was used in a 5-to-1 shooting ratio—Plus X for most of the sequences and a limited amount of Tri-X for street scenes shot in available light. About 6,500 feet of magnetic film was used in the various stages of recording. There are no optical effects in the picture, and fades and dissolves were accomplished by means of A-and-B roll

BIRNS & SAWYER ARRI PRODUCTS

Increase Range and Use of Arriflex Cameras
In Sports, Aerials, Underwater, and Sound

SOUND BARNEY, CAT. 1420



B & S Roll-over Sound Barney for Arriflex Coks 5095, of Camera Mount on Universal Mounting Unit, 16mm, 35mm, 50mm, 65mm, 80mm, 100mm, 125mm, 150mm, 200mm, 250mm, 300mm, 350mm, 400mm, 450mm, 500mm, 550mm, 600mm, 650mm, 700mm, 750mm, 800mm, 850mm, 900mm, 950mm, 1000mm, 1050mm, 1100mm, 1150mm, 1200mm, 1250mm, 1300mm, 1350mm, 1400mm, 1450mm, 1500mm, 1550mm, 1600mm, 1650mm, 1700mm, 1750mm, 1800mm, 1850mm, 1900mm, 1950mm, 2000mm, 2050mm, 2100mm, 2150mm, 2200mm, 2250mm, 2300mm, 2350mm, 2400mm, 2450mm, 2500mm, 2550mm, 2600mm, 2650mm, 2700mm, 2750mm, 2800mm, 2850mm, 2900mm, 2950mm, 3000mm, 3050mm, 3100mm, 3150mm, 3200mm, 3250mm, 3300mm, 3350mm, 3400mm, 3450mm, 3500mm, 3550mm, 3600mm, 3650mm, 3700mm, 3750mm, 3800mm, 3850mm, 3900mm, 3950mm, 4000mm, 4050mm, 4100mm, 4150mm, 4200mm, 4250mm, 4300mm, 4350mm, 4400mm, 4450mm, 4500mm, 4550mm, 4600mm, 4650mm, 4700mm, 4750mm, 4800mm, 4850mm, 4900mm, 4950mm, 5000mm, 5050mm, 5100mm, 5150mm, 5200mm, 5250mm, 5300mm, 5350mm, 5400mm, 5450mm, 5500mm, 5550mm, 5600mm, 5650mm, 5700mm, 5750mm, 5800mm, 5850mm, 5900mm, 5950mm, 6000mm, 6050mm, 6100mm, 6150mm, 6200mm, 6250mm, 6300mm, 6350mm, 6400mm, 6450mm, 6500mm, 6550mm, 6600mm, 6650mm, 6700mm, 6750mm, 6800mm, 6850mm, 6900mm, 6950mm, 7000mm, 7050mm, 7100mm, 7150mm, 7200mm, 7250mm, 7300mm, 7350mm, 7400mm, 7450mm, 7500mm, 7550mm, 7600mm, 7650mm, 7700mm, 7750mm, 7800mm, 7850mm, 7900mm, 7950mm, 8000mm, 8050mm, 8100mm, 8150mm, 8200mm, 8250mm, 8300mm, 8350mm, 8400mm, 8450mm, 8500mm, 8550mm, 8600mm, 8650mm, 8700mm, 8750mm, 8800mm, 8850mm, 8900mm, 8950mm, 9000mm, 9050mm, 9100mm, 9150mm, 9200mm, 9250mm, 9300mm, 9350mm, 9400mm, 9450mm, 9500mm, 9550mm, 9600mm, 9650mm, 9700mm, 9750mm, 9800mm, 9850mm, 9900mm, 9950mm, 10000mm, 10050mm, 10100mm, 10150mm, 10200mm, 10250mm, 10300mm, 10350mm, 10400mm, 10450mm, 10500mm, 10550mm, 10600mm, 10650mm, 10700mm, 10750mm, 10800mm, 10850mm, 10900mm, 10950mm, 11000mm, 11050mm, 11100mm, 11150mm, 11200mm, 11250mm, 11300mm, 11350mm, 11400mm, 11450mm, 11500mm, 11550mm, 11600mm, 11650mm, 11700mm, 11750mm, 11800mm, 11850mm, 11900mm, 11950mm, 12000mm, 12050mm, 12100mm, 12150mm, 12200mm, 12250mm, 12300mm, 12350mm, 12400mm, 12450mm, 12500mm, 12550mm, 12600mm, 12650mm, 12700mm, 12750mm, 12800mm, 12850mm, 12900mm, 12950mm, 13000mm, 13050mm, 13100mm, 13150mm, 13200mm, 13250mm, 13300mm, 13350mm, 13400mm, 13450mm, 13500mm, 13550mm, 13600mm, 13650mm, 13700mm, 13750mm, 13800mm, 13850mm, 13900mm, 13950mm, 14000mm, 14050mm, 14100mm, 14150mm, 14200mm, 14250mm, 14300mm, 14350mm, 14400mm, 14450mm, 14500mm, 14550mm, 14600mm, 14650mm, 14700mm, 14750mm, 14800mm, 14850mm, 14900mm, 14950mm, 15000mm, 15050mm, 15100mm, 15150mm, 15200mm, 15250mm, 15300mm, 15350mm, 15400mm, 15450mm, 15500mm, 15550mm, 15600mm, 15650mm, 15700mm, 15750mm, 15800mm, 15850mm, 15900mm, 15950mm, 16000mm, 16050mm, 16100mm, 16150mm, 16200mm, 16250mm, 16300mm, 16350mm, 16400mm, 16450mm, 16500mm, 16550mm, 16600mm, 16650mm, 16700mm, 16750mm, 16800mm, 16850mm, 16900mm, 16950mm, 17000mm, 17050mm, 17100mm, 17150mm, 17200mm, 17250mm, 17300mm, 17350mm, 17400mm, 17450mm, 17500mm, 17550mm, 17600mm, 17650mm, 17700mm, 17750mm, 17800mm, 17850mm, 17900mm, 17950mm, 18000mm, 18050mm, 18100mm, 18150mm, 18200mm, 18250mm, 18300mm, 18350mm, 18400mm, 18450mm, 18500mm, 18550mm, 18600mm, 18650mm, 18700mm, 18750mm, 18800mm, 18850mm, 18900mm, 18950mm, 19000mm, 19050mm, 19100mm, 19150mm, 19200mm, 19250mm, 19300mm, 19350mm, 19400mm, 19450mm, 19500mm, 19550mm, 19600mm, 19650mm, 19700mm, 19750mm, 19800mm, 19850mm, 19900mm, 19950mm, 20000mm, 20050mm, 20100mm, 20150mm, 20200mm, 20250mm, 20300mm, 20350mm, 20400mm, 20450mm, 20500mm, 20550mm, 20600mm, 20650mm, 20700mm, 20750mm, 20800mm, 20850mm, 20900mm, 20950mm, 21000mm, 21050mm, 21100mm, 21150mm, 21200mm, 21250mm, 21300mm, 21350mm, 21400mm, 21450mm, 21500mm, 21550mm, 21600mm, 21650mm, 21700mm, 21750mm, 21800mm, 21850mm, 21900mm, 21950mm, 22000mm, 22050mm, 22100mm, 22150mm, 22200mm, 22250mm, 22300mm, 22350mm, 22400mm, 22450mm, 22500mm, 22550mm, 22600mm, 22650mm, 22700mm, 22750mm, 22800mm, 22850mm, 22900mm, 22950mm, 23000mm, 23050mm, 23100mm, 23150mm, 23200mm, 23250mm, 23300mm, 23350mm, 23400mm, 23450mm, 23500mm, 23550mm, 23600mm, 23650mm, 23700mm, 23750mm, 23800mm, 23850mm, 23900mm, 23950mm, 24000mm, 24050mm, 24100mm, 24150mm, 24200mm, 24250mm, 24300mm, 24350mm, 24400mm, 24450mm, 24500mm, 24550mm, 24600mm, 24650mm, 24700mm, 24750mm, 24800mm, 24850mm, 24900mm, 24950mm, 25000mm, 25050mm, 25100mm, 25150mm, 25200mm, 25250mm, 25300mm, 25350mm, 25400mm, 25450mm, 25500mm, 25550mm, 25600mm, 25650mm, 25700mm, 25750mm, 25800mm, 25850mm, 25900mm, 25950mm, 26000mm, 26050mm, 26100mm, 26150mm, 26200mm, 26250mm, 26300mm, 26350mm, 26400mm, 26450mm, 26500mm, 26550mm, 26600mm, 26650mm, 26700mm, 26750mm, 26800mm, 26850mm, 26900mm, 26950mm, 27000mm, 27050mm, 27100mm, 27150mm, 27200mm, 27250mm, 27300mm, 27350mm, 27400mm, 27450mm, 27500mm, 27550mm, 27600mm, 27650mm, 27700mm, 27750mm, 27800mm, 27850mm, 27900mm, 27950mm, 28000mm, 28050mm, 28100mm, 28150mm, 28200mm, 28250mm, 28300mm, 28350mm, 28400mm, 28450mm, 28500mm, 28550mm, 28600mm, 28650mm, 28700mm, 28750mm, 28800mm, 28850mm, 28900mm, 28950mm, 29000mm, 29050mm, 29100mm, 29150mm, 29200mm, 29250mm, 29300mm, 29350mm, 29400mm, 29450mm, 29500mm, 29550mm, 29600mm, 29650mm, 29700mm, 29750mm, 29800mm, 29850mm, 29900mm, 29950mm, 30000mm, 30050mm, 30100mm, 30150mm, 30200mm, 30250mm, 30300mm, 30350mm, 30400mm, 30450mm, 30500mm, 30550mm, 30600mm, 30650mm, 30700mm, 30750mm, 30800mm, 30850mm, 30900mm, 30950mm, 31000mm, 31050mm, 31100mm, 31150mm, 31200mm, 31250mm, 31300mm, 31350mm, 31400mm, 31450mm, 31500mm, 31550mm, 31600mm, 31650mm, 31700mm, 31750mm, 31800mm, 31850mm, 31900mm, 31950mm, 32000mm, 32050mm, 32100mm, 32150mm, 32200mm, 32250mm, 32300mm, 32350mm, 32400mm, 32450mm, 32500mm, 32550mm, 32600mm, 32650mm, 32700mm, 32750mm, 32800mm, 32850mm, 32900mm, 32950mm, 33000mm, 33050mm, 33100mm, 33150mm, 33200mm, 33250mm, 33300mm, 33350mm, 33400mm, 33450mm, 33500mm, 33550mm, 33600mm, 33650mm, 33700mm, 33750mm, 33800mm, 33850mm, 33900mm, 33950mm, 34000mm, 34050mm, 34100mm, 34150mm, 34200mm, 34250mm, 34300mm, 34350mm, 34400mm, 34450mm, 34500mm, 34550mm, 34600mm, 34650mm, 34700mm, 34750mm, 34800mm, 34850mm, 34900mm, 34950mm, 35000mm, 35050mm, 35100mm, 35150mm, 35200mm, 35250mm, 35300mm, 35350mm, 35400mm, 35450mm, 35500mm, 35550mm, 35600mm, 35650mm, 35700mm, 35750mm, 35800mm, 35850mm, 35900mm, 35950mm, 36000mm, 36050mm, 36100mm, 36150mm, 36200mm, 36250mm, 36300mm, 36350mm, 36400mm, 36450mm, 36500mm, 36550mm, 36600mm, 36650mm, 36700mm, 36750mm, 36800mm, 36850mm, 36900mm, 36950mm, 37000mm, 37050mm, 37100mm, 37150mm, 37200mm, 37250mm, 37300mm, 37350mm, 37400mm, 37450mm, 37500mm, 37550mm, 37600mm, 37650mm, 37700mm, 37750mm, 37800mm, 37850mm, 37900mm, 37950mm, 38000mm, 38050mm, 38100mm, 38150mm, 38200mm, 38250mm, 38300mm, 38350mm, 38400mm, 38450mm, 38500mm, 38550mm, 38600mm, 38650mm, 38700mm, 38750mm, 38800mm, 38850mm, 38900mm, 38950mm, 39000mm, 39050mm, 39100mm, 39150mm, 39200mm, 39250mm, 39300mm, 39350mm, 39400mm, 39450mm, 39500mm, 39550mm, 39600mm, 39650mm, 39700mm, 39750mm, 39800mm, 39850mm, 39900mm, 39950mm, 40000mm, 40050mm, 40100mm, 40150mm, 40200mm, 40250mm, 40300mm, 40350mm, 40400mm, 40450mm, 40500mm, 40550mm, 40600mm, 40650mm, 40700mm, 40750mm, 40800mm, 40850mm, 40900mm, 40950mm, 41000mm, 41050mm, 41100mm, 41150mm, 41200mm, 41250mm, 41300mm, 41350mm, 41400mm, 41450mm, 41500mm, 41550mm, 41600mm, 41650mm, 41700mm, 41750mm, 41800mm, 41850mm, 41900mm, 41950mm, 42000mm, 42050mm, 42100mm, 42150mm, 42200mm, 42250mm, 42300mm, 42350mm, 42400mm, 42450mm, 42500mm, 42550mm, 42600mm, 42650mm, 42700mm, 42750mm, 42800mm, 42850mm, 42900mm, 42950mm, 43000mm, 43050mm, 43100mm, 43150mm, 43200mm, 43250mm, 43300mm, 43350mm, 43400mm, 43450mm, 43500mm, 43550mm, 43600mm, 43650mm, 43700mm, 43750mm, 43800mm, 43850mm, 43900mm, 43950mm, 44000mm, 44050mm, 44100mm, 44150mm, 44200mm, 44250mm, 44300mm, 44350mm, 44400mm, 44450mm, 44500mm, 44550mm, 44600mm, 44650mm, 44700mm, 44750mm, 44800mm, 44850mm, 44900mm, 44950mm, 45000mm, 45050mm, 45100mm, 45150mm, 45200mm, 45250mm, 45300mm, 45350mm, 45400mm, 45450mm, 45500mm, 45550mm, 45600mm, 45650mm, 45700mm, 45750mm, 45800mm, 45850mm, 45900mm, 45950mm, 46000mm, 46050mm, 46100mm, 46150mm, 46200mm, 46250mm, 46300mm, 46350mm, 46400mm, 46450mm, 46500mm, 46550mm, 46600mm, 46650mm, 46700mm, 46750mm, 46800mm, 46850mm, 46900mm, 46950mm, 47000mm, 47050mm, 47100mm, 47150mm, 47200mm, 47250mm, 47300mm, 47350mm, 47400mm, 47450mm, 47500mm, 47550mm, 47600mm, 47650mm, 47700mm, 47750mm, 47800mm, 47850mm, 47900mm, 47950mm, 48000mm, 48050mm, 48100mm, 48150mm, 48200mm, 48250mm, 48300mm, 48350mm, 48400mm, 48450mm, 48500mm, 48550mm, 48600mm, 48650mm, 48700mm, 48750mm, 48800mm, 48850mm, 48900mm, 48950mm, 49000mm, 49050mm, 49100mm, 49150mm, 49200mm, 49250mm, 49300mm, 49350mm, 49400mm, 49450mm, 49500mm, 49550mm, 49600mm, 49650mm, 49700mm, 49750mm, 49800mm, 49850mm, 49900mm, 49950mm, 50000mm, 50050mm, 50100mm, 50150mm, 50200mm, 50250mm, 50300mm, 50350mm, 50400mm, 50450mm, 50500mm, 50550mm, 50600mm, 50650mm, 50700mm, 50750mm, 50800mm, 50850mm, 50900mm, 50950mm, 51000mm, 51050mm, 51100mm, 51150mm, 51200mm, 51250mm, 51300mm, 51350mm, 51400mm, 51450mm, 51500mm, 51550mm, 51600mm, 51650mm, 51700mm, 51750mm, 51800mm, 51850mm, 51900mm, 51950mm, 52000mm, 52050mm, 52100mm, 52150mm, 52200mm, 52250mm, 52300mm, 52350mm, 52400mm, 52450mm, 52500mm, 52550mm, 52600mm, 52650mm, 52700mm, 52750mm, 52800mm, 52850mm, 52900mm, 52950mm, 53000mm, 53050mm, 53100mm, 53150mm, 53200mm, 53250mm, 53300mm, 53350mm, 53400mm, 53450mm, 53500mm, 53550mm, 53600mm, 53650mm, 53700mm, 53750mm, 53800mm, 53850mm, 53900mm, 53950mm, 54000mm, 54050mm, 54100mm, 54150mm, 54200mm, 54250mm, 54300mm, 54350mm, 54400mm, 54450mm, 54500mm, 54550mm, 54600mm, 54650mm, 54700mm, 54750mm, 54800mm, 54850mm, 54900mm, 54950mm, 55000mm, 55050mm, 55100mm, 55150mm, 55200mm, 55250mm, 55300mm, 55350mm, 55400mm, 55450mm, 55500mm, 55550mm, 55600mm, 55650mm, 55700mm, 55750mm, 55800mm, 55850mm, 55900mm, 55950mm, 56000mm, 56050mm, 56100mm, 56150mm, 56200mm, 56250mm, 56300mm, 56350mm, 56400mm, 56450mm, 56500mm, 56550mm, 56600mm, 56650mm, 56700mm, 56750mm, 56800mm, 56850mm, 56900mm, 56950mm, 57000mm, 57050mm, 57100mm, 57150mm, 57200mm, 57250mm, 57300mm, 57350mm, 57400mm, 57450mm, 57500mm, 57550mm, 57600mm, 57650mm, 57700mm, 57750mm, 57800mm, 57850mm, 57900mm, 57950mm, 58000mm, 58050mm, 58100mm, 58150mm, 58200mm, 58250mm, 58300mm, 58350mm, 58400mm, 58450mm, 58500mm, 58550mm, 58600mm, 58650mm, 58700mm, 58750mm, 58800mm, 58850mm, 58900mm, 58950mm, 59000mm, 59050mm, 59100mm, 59150mm, 59200mm, 59250mm, 59300mm, 59350mm, 59400mm, 59450mm, 59500mm, 59550mm, 59600mm, 59650mm, 59700mm, 59750mm, 59800mm, 59850mm, 59900mm, 59950mm, 60000mm, 60050mm, 60100mm, 60150mm, 60200mm, 60250mm, 60300mm, 60350mm, 60400mm, 60450mm, 60500mm, 60550mm, 60600mm, 60650mm, 60700mm, 60750mm, 60800mm, 60850mm, 60900mm, 60950mm, 61000mm, 61050mm, 61100mm, 61150mm, 61200mm, 61250mm, 61300mm, 61350mm, 61400mm, 61450mm, 61500mm, 61550mm, 61600mm, 61650mm, 61700mm, 61750mm, 61800mm, 61850mm, 61900mm, 61950mm, 62000mm, 62050mm, 62100mm, 62150mm, 62200mm, 62250mm, 62300mm, 62350mm, 62400mm, 62450mm, 62500mm, 62550mm, 62600mm, 62650mm, 62700mm, 62750mm, 62800mm, 62850mm, 62900mm, 62950mm, 63000mm, 63050mm, 63100mm, 63150mm, 63200mm, 63250mm, 63300mm, 63350mm, 63400mm, 63450mm, 63500mm, 63550mm, 63600mm, 63650mm, 63700mm, 63750mm, 63800mm, 63850mm, 63900mm, 63950mm, 64000mm, 64050mm, 64100mm, 64150mm, 64200mm, 64250mm, 64300mm, 64350mm, 64400mm, 64450mm, 64500mm, 64550mm, 64600mm, 64650mm, 64700mm, 64750mm, 64800mm, 64850mm, 64900mm, 64950mm, 65000mm, 65050mm, 65100mm, 65150mm, 65200mm, 65250mm, 65300mm, 65350mm, 65400mm, 65450mm, 65500mm, 65550mm, 65600mm, 65650mm, 65700mm, 65750mm, 65800mm, 65850mm, 65900mm, 65950mm, 66000mm, 66050mm, 66100mm, 66150mm, 66200mm, 66250mm, 66300mm, 66350mm, 66400mm, 66450mm, 66500mm, 66550mm, 66600mm, 66650mm, 66700mm, 66750mm, 66800mm, 66850mm, 66900mm, 66950mm, 67000mm, 67050mm, 67100mm, 67150mm, 67200mm, 67250mm, 67300mm, 67350mm, 67400mm, 67450mm, 67500mm, 67550mm, 67600mm, 67650mm, 67700mm, 67750mm, 67800mm, 67850mm, 67900mm, 67950mm, 68000mm, 68050mm, 68100mm, 68150mm, 68200mm, 68250mm, 68300mm, 68350mm, 68400mm, 68450mm, 68500mm, 68550mm, 68600mm, 68650mm, 68700mm, 68750mm, 68800mm, 68850mm, 68900mm, 68950mm, 69000mm, 69050mm, 69100mm, 69150mm, 69200mm, 69250mm, 69300mm, 69350mm, 69400mm, 69450mm, 69500mm, 69550mm, 69600mm, 69650mm, 69700mm, 69750mm, 69800mm, 69850mm, 69900mm, 69950mm, 70000mm, 70050mm, 70100mm, 70150mm, 70200mm, 70250mm, 70300mm, 70350mm, 70400mm, 70450mm, 70500mm, 70550mm, 70600mm, 70650mm, 70700mm, 70750mm, 70800mm, 70850mm, 70900mm, 70950mm, 71000mm, 71050mm, 71100mm, 71150mm, 71200mm, 71250mm, 71300mm, 71350mm, 71400mm, 71450mm, 71500mm, 71550mm, 71600mm, 71650mm, 71700mm, 71750mm, 71800mm, 71850mm, 71900mm, 71950mm, 72000mm, 72050mm, 72100mm, 72150mm, 72200mm, 72250mm, 72300mm, 72350mm, 72400mm, 72450mm, 72500mm, 7

printing. All film processing and printing, incidentally, was done in the Cinema Department's own well-equipped laboratory.

Some of the problems and challenges encountered in making this film are summarized in comments by the director and key technicians who worked together to produce it:

Research Preceded Shooting

Russell Thomas, Director and co-author of the story: "Jim Glorege and I did a great deal of research before writing the script. We talked to Police Department and Narcotics Division officials who told us they felt there was great need for such a film in their work. We had wanted to tackle a film that had something to say, one that could be handled with a dramatic rather than a straight documentary approach. We did a first draft and by the time a production crew was organized we had a workable shooting script. Pete Hanson, who was the film editor, also did some rewriting on the dialogue. Our next immediate problem was casting. We wanted capable actors, but there was no budget to hire professionals. We were fortunate to get

some excellent actors from U.S.C.'s drama Department and also from the Pasadena Playhouse. Our ever-present problem was getting the whole cast together at the same time. So we had to constantly shift our shooting schedule around to accommodate the other activities of our actors.

"Because our subject was a serious one, we purposely avoided any comedy touches that would have lightened it. I wanted to get a feeling of confinement and to use closeups generously to capture emotions of the people involved. With exception of possibly two cost members, none of the actors had any previous film experience. At first they tended to project too broadly and the mechanics of the medium restricted them, but as we progressed in our shooting they got used to the camera and their performances improved. Since I could never get the whole cast together at one time, there was little opportunity for pre-production rehearsal. The best I could do was to hold readings for characterization and approach. When it came time to shoot we worked all kinds of hours—whatever our people were available. Sometimes we would start in the afternoon and work through the night. It was

definitely a learning experience and a challenge, but meeting it made us feel mighty good afterwards."

James Glorege, Co-author: "The subject of narcotics as it involves teenagers was first suggested to us as the basis for a film by one of the narcotics-education associations. Our research covered material on the nature of narcotics, reports from various associations, and investigational case histories. We also viewed several films that had been done on the subject, both theatrical and educational. We found that most educational films were didactic—pointing a finger at the audience and heavily moralizing. They were, in general, badly acted and produced. Theatrical films on the subject were technically smooth, but dwelt mostly on sensationalism instead of diving into the true nature of the narcotics problem. There was inevitably a romance thrown in, which tended to make such films quite trite—no did any of them concentrate on the teenage addiction problem. We found there was much left to be said—and that it would be hard to incorporate all the things we wanted to say into one film.

"We had first envisioned a 45-min-

TAKE FADES... LAPS...



Ultra-fast F/12 ZOOM LENS

New Pan Quax 85 zooms from 12mm through 85mm, with reflex through-the-lens focusing and viewing as well as split-range range finder. This lens takes unusually sharp detail and color rendition. Bolex Cinema 8 for 8mm camera. \$425.00.



All prices include Federal Excise Tax where applicable.

WHEN CHANGING YOUR ADDRESS

Please notify us at least four weeks in advance. BE SURE to give your former address as well as your New Address. Our Circulation Department needs both addresses in order to properly identify your address stamp.

Your cooperation will insure that American Cinematographer will continue coming to you regularly without delay or omission of issues. Thank you.
—American Cinematographer

the picture which would have given us the scope to detail the differing social backgrounds of the various characters; to treat more fully the agonies of withdrawal and the aspect of the baby being born an addict; and to delve more deeply into the social problem represented by a young girl forced to turn to prostitution to support her need for drugs. We also wanted to develop the parallel stories of the two girls and to introduce the queer doctor as part of the larger crime aspect arising out of the narcotic traffic. When we found the film had to be

linked to 25-minutes' screen time, we were faced with the necessity of compressing our treatment in order to still touch on all of the points mentioned. Our story line stresses the fact that one girl takes the path upward, while the other becomes a hopeless case. There could not realistically be any happy ending for the confirmed addict, since Police Department statistics show that once a person is 'hooked,' his chances of getting off heroin are very slim. Only 1% manage to shake the habit, but even these are not consistent. They may go one, two or ten years apparently free of addiction, and then something will happen to pull them back again."

The Editing Problems

Peter Hanson, Editor: "The editing problems of this picture were not too great because I was provided with ample close shots for intercutting. However, I did have a problem in whittling the film down to the required length. The first cut ran 40 minutes. We had to sacrifice some important scenes entirely and trim others very short to reduce it to 25 minutes' screen time. We found that a few sequences didn't 'jell,' and so we cut

them out entirely. I tried assembling the cuts in various ways, juggling scenes and re-arranging dialogue. The challenge of the picture was a very interesting one. I learned a great deal."

Anthony Farnon, Composer of the musical score: "When I was approached to write the score, the picture was already in the advanced stage of production. In fact, the editing, except for a few refinements, had been completed. I had never done a film score and was, frankly, a bit afraid of the medium. I viewed the picture several times with the director and Faculty Advisor Mel Skoun in order to determine which sequences should be under-scored, then we broke the film down into exact timings of those sequences. We decided against the 'Peter Gunn' style of jazz because it has been over-used lately. I used jazz only in the sequence where the couple is seen driving around town in order to convey a feeling of having fun and also to possibly suggest a car radio. Everything else was an attempt to establish internal mood—hence the extensive use of dissonance to express conflict. We also decided not to 'Mickey Mouse' the music by synchronizing it too closely to the action. In trying for a more expressive type of music I studied the

ALL EFFECTS WITH NEW BOLEX REFLEX

New variable shutter on Bolex 16mm Reflex puts fades at your fingertips. Hand backwinding for dissolves. Parallax-free through-the-lens viewing and focusing while shooting. Footage and frame counters . . . speeds 12 to 64 fps . . . settings for time exposure, single frame and continuous run . . . many other extras. (Automatic REXOFADER shown on camera is a new push-button control that times fades, optional at only \$37.50.) With Lyttr 25mm f/1.8 lens, the Bolex R16 REX is only \$400. (Lenses shown optional at extra cost.) Write Department BAC-1 for literature and name of nearest dealer.



Bolex Unimotor

Drives a full roll of film through camera with absolutely constant speed. No lost shots while rewinding! Easy to attach (no special tools necessary). Speeds from 12 to 32 fps. Complete with battery case, \$89.50.



Five Bolex Lenses

Switar 10mm f/1.6 extreme wide angle, \$149.50
Switar 25mm f/1.4 very fast normal lens, \$168.00
Switar 75mm f/1.9 fast telephoto, focusing from 5', \$145.00. All an element or more; anti reflection control for lifetime color fidelity.



Bolex 16mm Extension Tubes

Perfect for macrocinematography! Allows ultra-sharp close-ups of extremely small objects. An easy, inexpensive way to new professional effects with your camera. Set of four tubes, \$15.00.

BOLEX

FAILLARD Incorporated, 100 Sixth Avenue, New York 15, N. Y.

NEW LOWEL LIGHT BARN DOOR



FOLDS FLAT

WEIGHS 5 POUNDS
ATTACHES INSTANTLY TO ALL 8-10 REFLECTOR HOLDS, 100-500 WATTS
EXTRA LARGE, REMOVABLE DOORS
STURDY CONSTRUCTION

Ask your photo dealer
\$5.75
about other fine products from —
LOWEL-LIGHT PHOTO ENGINEERING,
401 WEST 34TH STREET, NEW YORK 18, N.Y.

MITCHELL STANDARD CAMERA

- 35mm, 16mm, 8mm and 6.5mm Standard Super Lenses
- Size, 1400 East Angelenos
- 210 inch Portable Super Motor
- Viewfinder with built in 8mm and 16mm Scale
- Motor Box
- Mitchell Tripod, Pelican Head, and Release
- Complete Set of Cams, Motor Mounts, Steel Cables, etc.

THIS OUTFIT IS ABSOLUTELY PERFECT MECHANICALLY AND OPTICALLY

\$3900

Box 760 American Cinematographer

VARIABLE SHUTTERS and Automatic Dissolve Attachments for ALL BOLEX II CAMERAS.



The real answer to fading lap dissolves and controlled shutter speeds.

Send for free information

PELEGRIINI-PIEK
1545 Lombard St.
San Francisco 33, Calif.

ALSO DUAL POWER VIEWER FOR BOLEX II

SHOOT & SHOW 8MM OR 16MM LIP-SYNC.
With SYNCHRO-SOUND on YOUR PRESENT EQUIPMENT

Don't leave your photographs as audio slabs! Don't leave your present cameras, microphones and tape recorder, should lip-synch on location. De-Phon Audio, Inc. is recording on magnetic sound system. Lip-synch tracks can be made during lip and any professional count quality. These facilities for cinema work. Price start \$25 at \$120.00.

Write Or Phone For Details
MICHAEL DeANGELO
344-29 Lefferts Ave., Flushing 35, N.Y.
Box 5
Flushing, N.Y. 11367

script and film, arranging themes in my mind to achieve a general flow.

"The score was recorded with a 34-piece orchestra composed mainly of wind instruments and percussion. There were no strings except for a bass viol. All of the musicians were volunteers, students from the U.S.C. School of Music. As we were recording at a time when they were especially busy with concerts, sending them all up at one time was like pulling teeth. When we were ready to record, two men had forgotten about the session and I had to wait around them until they showed up. When all were finally together, we ran through the score a couple of times and then recorded it on the sound stage. The entire recording session took three hours."

Peter Clark, Sound and Unit Manager: "By the time we were ready to record the musical score a set had been constructed on the stage, which tended to compress the orchestra so that we could not get the separations we wanted. Most of the sound was picked up by a condenser mike mounted overhead, while four carefully-placed ribbon mikes were used to emphasize separate groups of instruments. Sound from these various mikes was mixed onto a single track during the recording session by means of a mixing console adjacent to the stage. Dub-

bing of the first composite track was done on a larger console. Location sound was recorded with a Stancil-Hoffman S-6 recorder and EVU-666 mikes. On the stage we used an RCA-666 mike with Altec condensers mounted on a Mole-Richardson boom. We used only one mike for dialogue and effects recording. Our sound department set-up affords four 16mm interlock dummies or two recorders and two dummies, depending on which way we want to use the equipment. We have a rack-mounted 1/4-inch tape unit and a 1/4-inch portable on the Stancil-Hoffman roll-about. We also have a pair of Ampex 600's and a 60L. We have recently acquired a Magnascope-900 recorder, but this was not available at the time the film was made."

In the best tradition of film making, USC's Cinema Department ran over budget on this production—seven dollars. (The total budget for the film was only \$700.) But the achievement stands as a creditable one in mere ways than one. In addition to its value in the spill light against teen-age narcotics addiction, the film furnished an enterprising crew of cinema technicians, who may very well be numbered among tomorrow's important film makers, with solid practical experience in the arts and science of motion picture production.

QUALITY CONTROL CENTER

Continued from Page 52B

35mm and 16mm laboratories and covers black-and-white and color developments.

These facilities and services add up to a "quality control center"—staffed, equipped and designed by Eastman Kodak Company to provide the finest possible technical assistance—which is available to the entire motion picture industry, in the interest of turning out a finer filmed product.

Primarily, the Hollywood office was set up to represent the Rochester, N.Y. factory, nearly 3,000 miles away, in giving on-the-spot advice to motion picture film men. No one knows how much shooting time has been saved and how many hit-or-miss scenes have been avoided by recourse to Eastman-Hollywood services.

In the early days, during the transition, many movie producers even ran off their dailies at the Eastman-Hollywood facilities. These rushes, of

course, are now shown at production centers.

One man constituted the Eastman-Hollywood staff in those days. He listened to complaints, analyzed products and developers and studied the way they were being used, and gave the producers professional advice for getting the most out of the Eastman products.

The second phase in Eastman-Hollywood Technical Services came with the introduction of sensitometry and densitometry, around 1929, when sound movies made their debut and photographic problems multiplied.

The third phase set in with the chemical analysis of developers, as the quality of prints and sound synchronization became more and more important.

The fourth phase began with the introduction of 16mm Kodachrome Commercial Film.

The fifth phase grew out of the development of Eastman Color Negative Motion Picture Film.

By means of a closely co-ordinated communications system (teletype, phone tie-line, etc.), EK's West Coast Division has up-to-the-day information on even the slightest variations in emulsion sensitivity. Sensitometric check points in Hollywood, New York, Chicago and Rochester maintain rigid control over the quality of the product going through cameras in Hollywood and around the country.

This information is the bread and butter tool of the West Coast Division. With this daily information on each emulsion batch and on-the-spot testing in Hollywood, Eastman Kodak West Coast technicians are able to afford the film user precise guides to the use of the film product.

With people trooping into theaters all over the world to see American-made movies, it is no wonder everyone values the services of Eastman's Hollywood office in helping them to make a good product still better. *

BMM COMES OF AGE

Continued from Page 547

little sound in *Sum* is processed at present, the company said, but the volume in silent black-and-white and color in *Sum* is considerable.

Hollywood-Valley Film Laboratories finds tourism a fruitful source of *Sum* film processing. Vernon Frith says the company makes around 150 prints of *Sum* (silent) color movies a week for sale in and around the Colorado State Parks. Knotts Berry Farm of Anaheim, California, is another user of *Sum* film, marketing color prints of the farm and its attractions to visitors as a promotion medium. Color movies in *Sum* of Marineland, another famous Southern California tourist attraction, are marketed at the rate of 100 to 200 prints weekly to visiting *Sum* home movie fans preferring the professionally-produced films to their own, or who find they can't cover all the going-on with their camera and still watch and enjoy them. Ultimately, when sound is added to these films, their appeal will be greatly enhanced.

Frith says industrial users of movies in employee training, dealer education and promotion, are giving serious thought to the possibilities of *Sum* movies on grounds of economy and greater portability.

Home projection of *Sum* entertainment movies will provide the big push

BOLEX ACCESSORIES BY STEVENS

Variable Shutter • Split-Frame Mark • Synchronizer and Battery Camera Drives • Time Lapse Timer • Lens Extension Tubes • Back-Door • Turret Lever • Third Turret Stop • Turret Filter Stakes • Camera Base • Lens Control Handle • 400-Ft. Magazine • Sound Synchronizer

Write for our Bolex Accessory Catalog.

STEVENS ENGINEERING CO.

340 N. Newport Blvd.
Newport Beach, Calif.

VIDEO FILM LABORATORIES

• **STEAM PRINTING & PROCESSING**—Rental Service
• **BLACK & WHITE**, Fastest, Negatives, Positives
• **COLOR PRINTING & PROCESSING**
• Super Anachronism to ASA 400 Anachronism
Expert Attention and Service
350 West 50th Street, New York 19, N.Y.
Adlon 4-7194

You save with **CECO** 3 rentals ways

- 1 Every piece of equipment is checked out to perform "better than new."
- 2 Your accountant will explain the tax benefits of renting versus buying.
- 3 CECO provides all normal servicing free of charge.

More experts use CECO Rental more often—because if we don't have it, who has?

Branch:
CAMERA EQUIPMENT CO., INC. OF FLORIDA
1335 East 30th Avenue • Hialeah, Florida
SALES • SERVICE • RENTALS

CAMERA EQUIPMENT CO., INC.

Supermarket 444 375 West 132d Street, New York 24, New York • JEdison 4-1420

Getaways: Please call me (see FRM sample address of Rental Company)

Name _____

Firm _____

Street _____

City _____ State _____

Cameras: 8mm & 16mm—Sound Complete or Single System—Silent—Hi-Speed

Lighting: Arcs—Incandescents—Spots—Floods—Stimulators—Reflector—All Lighting Accessories

Sound Equipment: Magnetic—Optical—Mixers—Scopes

Crane Equipment: Parallels—Gabels—Other Grip Accessories

Reflector: Collar—Reflector—Parallels—Printers—Gates

Lenses: Wide angle—Zoom—Telephoto—Anastigmat

Generator: Portable—Track Mounted

Editing Equipment: Mangles—Viewers—Scissors—Reversers

Projector Equipment: 8mm & 16mm—Sound & Silent—Slide—Collimator

Television: Closed Circuit TV

Where Camera Cuts

*CECO—Finest work of Camera Equipment Co.

in the medium, Frith predicts. Already he adds, another orders run 100 or more for 8mm movies to 1 for 16mm in the silent media.

At Tate of Pasadena, California, owner of Tate Salon Training, Inc., uses 8mm color movies as an aid in teaching courses in hair styling and beauty parlor practices, and as refresher demonstrations for salon operators and beauticians.

Technicolor also is conducting tests in the 8mm medium. The company plans to produce 8mm reduction prints of 16mm and 35mm stock films if the demand materializes. Technically, the firm can make 8mm reduction prints in any quantity desired.

Fred J. Scobey, technical director at General Film Laboratories Corporation, says General already is set up to make 8mm color-and-sound prints economically by making contact prints from internegatives. The internegative is 35mm and four 8mm prints are made simultaneously, side by side on pre-perforated (for 8mm) 35mm stock. General has the equipment, once the reduction internegative is made and processed, for printing four at a time, stripping for sound four at a time and recording four at a time. The four are then slit apart and are ready for use.

Eventually the company expects the amateur demand to rise markedly with the increasing use and consequent mass manufacture of cameras, projectors, and other accessories in the 8mm sound and color movie field.

Industry is expected to use the lower-cost 8mm sound film for sales promotion, demonstrations to dealers, institutional services to the public and employee training.

For audio-visual use in the public school system Scobey predicts 8mm will have great appeal to budget-conscious administrators. He cites the approximate cost of 16mm in color and sound as \$75.00 for a half-hour film. A 30-minute reel in 8mm color, stripped for sound and recorded, ready for projection, may cost as little as \$35.00. As 8mm sound film projectors create a new mass market, and new techniques are developed to meet the expected mass demand for 8mm films and equipment, the cost of 8mm movies will undoubtedly be much less.

Projectors are being developed, with full delivery likely, by Elje (Norway), Cine (Italy), and Japanese makers; also by Bell & Howell, Bente, and RCA. Eastman and Fairchild already have 8mm sound projectors on the market.

Sidney P. Salew, Vice-president of Consolidated Film Industries, Hollywood, says his company's laboratories are equipped for sound-stripping, printing and re-recording of 8mm films. He professes to be not very optimistic about 8mm sound at the present stage, but says the company will "wait and see." He thinks savings possible in 8mm, as compared with 16mm, for school projection may prove "largely illusory" until such time as the smaller medium comes into wider use. In his opinion, 8mm film might be apt to show scratches and might tear with handling more readily than would be the case with 16mm, and there may be the outset be more difficulty in getting interesting free films from industrial sources in the 8mm size than in 16mm, as at present.

The picture quality of the Kodak 8 sound projector is such that films

can be shown easily to audiences of fifty persons and even up to eighty or ninety in a darkened room.

The new projector, which can show sound film acceptably on a five-foot screen and, in the future, up to an eight-foot screen, opens up the possibility of a whole new industry of films for home consumption. As fast as the 35mm and 16mm subjects are made available in 8mm, the demand is expected to grow for more and more new subjects.

Technological breakthroughs such as the improved sound head on the Kodak projector offer vastly improved audio quality in 8mm—comparable to present 16mm sound.

With high-quality release prints, the audio system operates with a frequency flatter of less than 0.16 per cent RMS and a wow of less than 0.4 per cent. The 24 frames-per-second response is 70 to 9000 cycles and is ± 3 db from 15 to 7000 cycles. This compares favorably with and even exceeds the performance of some 16mm sound projectors.

At 16 frames-per-second, response is 70 to 7000 cycles and is ± 3 db from 15 to 5000 cycles. Using Kodak 8mm Souverex, the total amplitude modulation at 1000 cycles averages less than $\pm 3\frac{1}{2}$ db.

An interesting sidelight on the sound quality obtainable with 8mm occurred recently when a motion picture projectionist channeled the sound from his own Sound 8 Projector into a theater speaker system after exhibition hours. According to the projectionist, "People in the auditorium (theater employees) thought I was running 35mm film, the sound quality was that good."

NOTICE OF TITLE CHANGE

American Cinematographer Manual a new, revised title for the forthcoming handbook on cinematographic technique previously announced under the title of A.S.C. Photographic Manual. The editors feel that the new title more readily relates the book's contents to cinematography.

OFF THE PRESS SOON! The AMERICAN CINEMATOGRAPHER MANUAL

Acclaimed the greatest compilation of motion picture production data ever assembled between the covers of a single book! More than 875 pages, handsomely bound in handy pocket size. Thoroughly indexed for quick reference. Not only instructive but a dependable source of answers to just about every problem encountered in professional motion picture photography.

Reserve Your Copy Today!

\$7.50

AMERICAN CINEMATOGRAPHER MANUAL
P.O. Box 2230, Hollywood 28, California

DEEP SEA FISHING

Continued from Page 137

of the line-reeling, and the "pumping" action. Such shots were especially compelling because the angler, fighting his fish, is completely oblivious of everything going on around him. For all shots such as this, the hand-held Bell & Howell camera was used, and its flexibility more than compensated for any slight movement that shows up on the screen.

Over a period of weeks, we went out on several different boats. Where a boat had a cab housing or flying bridge, Bob Zellars and I got on top and shot scenes from there. This is not

Automatic Daylight Processing



DEVELOPING TANK

- Processes up to 200 ft
- Removable film tray
- Motor—3-1/2 hp—All-Steel
- Motor—direct junction
- Built-in Quality Assured
- 400 ft. Tank Available



FILM DRYER

- Motor driven—Heated
- Tension driving
- Automatic shuttles off—over
- Strips film and
- Mounts on suspension
- Easily assembled without tools
- Compact, Portable

Desecrated With for Free Literature

Micro Record Corp.

480-14
South Ave.
Babes, N.Y.

16MM
BLACK & WHITE
reversal printing & processing

COLOR
PRINTING

Fastest Service. A&B Roll Prints.
Distortion Free. expert attention to
every job. With 100 complete color
machines... Circular 1

LASTY
122 South Ave., N.Y. 10 • Tel: 8-2150

FOR
PRO RESULTS

PROFESSIONAL FILM PAIRING

used for many years for making
high quality color prints and
negatives. Available in 16mm
film, 35mm film, or 35mm
film. Low inventory. Low cost.
Low cost. Low cost. Low cost.

FORBES ROBINSON INC. • Tel: 61-1071 Apt. 16
New York 17, N.Y.

LIQUID GATE
PRINTING FOR
16-35 BLOW-UPS

As printing can blow up 16mm and 35mm prints
which eliminate production expense and give
you maximum movie quality. It is particularly
suitable for use in:

- REPRODUCTION OF OLD AND NEW FILMS
- SAVING REMAINING SCENES OF ORIGINALS
- LEAKS IN 16mm BLOW-UPS

The scene of 16mm (unreel) blow-up prints
produces motion less greatly increased due to
the tremendous benefit of Liquid Gate
Printing. A fact will prove in relief.

Complete Laboratory and Effects Services
BEST PRICE LIST AVAILABLE - INQUIRIES WELCOME

FILM EFFECTS OF Hollywood, Inc.
1840 N. Hollywood Ave., Hollywood 28, Calif.
LIVESTOCK BLIND - Translucent
View 30 Years of Major Studio Experiences"

"MITE - LITE"

LIGHTEST, MOST PORTABLE LITE
MOUNT, BATTERY, AND LENS
MOUNT. 35mm. 16mm.
LITE BACK MOUNTING
PITS ANY CAMERA... COSTS JUST 100

JACK D. SHIPP
2821 Oak Point Dr., Hollywood 28, California

changing because the boat captain
must constantly maneuver the boat to
keep the anglers in position to fight
the fish.

For best results we used a mean
4/stop setting (determined by a meter
reading) between the two extremes of
sunlight and shadow. Variations from
this setting were made when time per-
mitted; but as a rule, we found the
intermediate setting gave us adequate
detail in both shadows and highlights.
Besides, we had the advantage of latitude
in the color film that would per-
mit a certain amount of correction in
the printing.

Focus presented no problem. The
Kinet wide-angle lens set at f/5.6 and
focused for hyperfocal distance afforded
acceptable depth of field from about
3-feet to infinity. This range of depth
practically freed us from any focus

worries when using the wide-angle
lens.

The telephoto lens used on the Cine
Special was also set for hyperfocal
distance; but because this lens has a
much shallower depth of field than the
normal and wide-angle lenses we also
used, it was necessary to re-focus for
any action closer than 60 feet.

During the course of recording the
various angling ventures of Jim and
Jane Haywood on this trip, we were
tempted on many occasions to clutch
our cameras in favor of the fishing
rod. However, we had a job to do and
we overcame the temptations. The
days and weeks of shooting, hard work
and self-discipline eventually paid
off in 30 minutes of action-packed
adventure movies that has thrilled the
many audiences for whom they have
been screened. *

FILMING "ALL THE YOUNG MEN"

Continued from Page 531

the stage for a socially significant se-
quence in which his life is saved by
means of blood pumped into his veins
directly from the throbbing arteries
of the Negro sergeant whom he has
hated during the preceding eight weeks.

At any rate, what with the do-lins
and all, it seemed that the only place
this clash of man-against-machine
could be shot was in the parking lot
of the Lodge. Diners in that hostelry
were treated to what was undoubtedly
the most spectacular outdoor floor
show on record. The cars had been
removed from the lot, of course, and
the camera was mounted on the hy-
draulically controlled platform of a
Blue-goose location truck so that follow-
shots could be made. The road running
alongside the parking lot was icy, and
chains had to be applied to the wheels
of the truck—giving promise of some
pretty lumpy follow shots. Somehow
the camera operator managed to ride
with the bumps and in the final cut
these shots are amazingly smooth.
Since the truck could travel only a
short distance without having civiliza-
tion encroach violently into the scene
its progress was shown by a series of
cuts in which it was run back and
forth repeatedly over the same patch
of parking lot while grips frantically
shifted prop trees in what sometimes
appeared a losing battle to make the
background look different. They did
slight with the trees, but there wasn't

much they could do with the moun-
tains.

The sequence as it appears in the
completed film gives no hint of the
hysteria which attended its filming.
Fapp's resourcefulness and the skillful
stuntwork of the cutting room have cre-
ated an exciting piece of action that
actually appears to have been shot in
a Korean winter-land far from the
rendevous of weekend skiers. The origi-
nal shooting schedule for the film
was 20 days, but thanks to the caprices
of that whimsical witch, Mother
Nature, the final scene was cut "in
the can" until 54 days after shooting
began.

In photographing the snow scenes
for "All The Young Men," Director
of Photography Fapp violated a theory
of exposure long held by most pho-
tographers and even some film ma-
nufacturers; namely, that when shooting
in snow you should always decrease
exposure at least one stop from the
normal incident light meter reading
in order that the reflected glare from
the snow will not burn up the scene.
Fapp did exactly the opposite.

"The greatest danger in shooting
snow scenes is under-exposure," he ex-
plains. "It is hard to get an accurate
reading in snow because of the re-
flected light, even when you are using
an incident light meter. One must rely
a great deal on his general knowl-
edge and experience. In such cases

I use my Norwood meter and then open up one stop above the indicated exposure.

Where there are people in the scene and you expose exactly according to the meter reading, you run the risk of losing the detail in faces completely. You can't possibly read an overall snow composition with a reflected light meter and get any sort of accuracy. Here the best bet is to use a gray-scale card a couple of feet square, having a tonal value similar to average flesh tone, and take a reflected light reading very close to the card. Some cameramen prefer to take a reading from the sky, disregarding the scene itself."

Whatever Fapp's theory of exposure determination, the result speaks for itself. The snow, as he photographed it, has texture and form and a granular quality that is almost three-dimensional. This is due mainly to the infinite care given the lighting. He avoided shooting any snow scenes with front light, because this would have flattened the character of the snow, making it look like a sheet of white paper. Instead, he endeavored to shoot from an angle in which the sun functioned as a cross-light or back-light, and used as booster lights as the key source. In this way Fapp also had firmer control of the lighting, since it was not always possible to count on the sun being where he wanted it.

Never Uses Reflectors

He disdains use of sunlight reflectors. "I'm not a reflector man," Fapp maintains. "I don't like the 'shiny boards'. It takes about three of them to light a full figure, and if an actor moves a foot off his mark he's out of the light. Following him with a reflector is cumbersome and often looks unnatural. In a wind they are always flapping around. If the sun goes behind a cloud you're left with nothing to reflect. Many cameramen do use them, but I prefer booster lights."

A great deal of the action of "All The Young Men" takes place at night. Fapp shot these sequences day-for-night using a combination of neutral density and 25A red filters. The effect is a very realistic moonlit landscape. He did not filter the exterior day sequences because the sky at 6,000 feet is very blue and shows up richly without filtration. He did, however, use fog filters on all of the night scenes—including the interiors. The fog filter used inside the farmhouse set was of

Transform your 16mm Camera into a SOUND CAMERA . . .

Your projector into a
**SOUND
PROJECTOR**
with the

**Magnasync
Nomad**



The first single-system system recorder-reproducer that assures perfect lip-sync with professional quality.

Now! Record on location, speech and background sound, with any silent camera. Camera mounts on to the seven poked Nomad and drives the Nomad through a flexible cable assuring perfect synchronization.

The Nomad amplifier is fully transistorized and powered by a self-contained nickel cadmium battery. Right Magna magnetic film is sprocket driven, therefore assuring frame to frame synchronization.

The Nomad has twin track recording heads and universal play-back head.

Write for more complete information and literature.

In Florida: Camera Equipment Co., Inc.
of Florida, 1325 E. 9th Ave. Mialech,

In Hollywood, California: Jack Hill, Manager
6510 Santa Monica Blvd.

CAMERA EQUIPMENT CO., INC. Dept. 6-16 • 315 West 43rd St.,
New York 36, N. Y. • JEden 4-3428

**AFTER 22 YEARS AT THE SAME LOCATION,
TELEFILM IS STILL THE BEST ONE-STOP
16MM MOTION PICTURE SERVICE OFFERING
SPEED, QUALITY, AND DEPENDABILITY.**

TELEFILM

6039 HOLLYWOOD BLVD., HOLLYWOOD 28, CALIF.

A leading 16mm motion picture technical service
since 1938

a very light gradation, but it grayed the scene just enough to create a cold night feeling. The fog filters used on side were of a slightly heavier density.

Columbia Studios had effectively winterized the cameras used by installing heaters operated by storage batteries. However, some trouble was encountered with the lenses. The air mechanisms would freeze up and the lenses would have to be taken out of their mounts in order to change apertures. The average temperature when the company left the Lodge in the morning varied between 14 and 18 degrees above zero, but by 10 o'clock it would be up around 30 degrees and everyone would start peeling off their heavier clothes. The cameras were run without blimps on location and no overhead mikes were used. The dialogue was picked up by button mikes hidden in the actors' clothes. The wires ran down their trouser legs and were buried in the snow.

There were several exterior moving camera shots where a dolly would have been required, but a sled was used instead. The terrain had to be right for a sled, of course, but the sled worked very smoothly and eliminated the necessity of laying dolly tracks in the snow. Noteworthy is the manner in which Fapp consistently matched the quality of scenes shot on the stage with those shot on location.

Twice nominated for Academy awards ("Desire Under the Elms" and "The Five Pennies"), Dan Fapp went directly from shooting "All The Young Men" to a slightly different type of subject matter: Marilyn Monroe in the 20th Century-Fox production, "Let's Make Love." As of this writing he is off to New York to photograph dancing-in-the-streets location sequences for the forthcoming 65mm color musical, "West Side Story." ■

PROCESS AS YOU SHOOT

Continued from Page 548

The Repromatic "process-as-you-shoot" method is particularly applicable to such fields as instrumentation recording, sporting events, oscillograph recording, television recorded photography, cinematography, and in any phase of industrial motion picture photography that demands immediate access to results in screenable form. ■

PHOTOGRAPHIC ASSIGNMENTS

Continued from Page 534

D. STANLEY MORLEY, ASC, "Jack the Giant Killer" (Technicolor, Edm. Small Prod. for UA) with Kathryn Matheson and Jack Meadows, Jerry Jansa, director.

RONALD MITT, ASC, "The Mollies" (Seven Arts Int. UA, shooting at Rome) with Carl Gable and Marilyn Monroe. John Huston, director.

ROBERT STUTTS, "Something Wild" (Photomath Prod. for UA, shooting in N.Y.) with Carroll Baker and Ralph Meeker as Jack Garfield, director.

BRUCE FORT, ASC, "West Side Story" (Paramount 70 & Color, Mirisch Productions) with Dean Cain, director.

ROY MARR, ASC, "The Time Award" (Cinema Prods.) with Don McGuire and Frances McCauley. Wesley Barry, director.

KEYWEST STUDIOS

WALTER STERN, ASC, Series of religious films (Color) Harold Schuster, director.

NEIRO-GOLDWYN-MAYER

HAROLD WILLIAMS, ASC, "Athlete, The Last Card Game" (MetroColor, George Pal Prods.) with David Menni and Jesse Taylor. George Pal, director.

JOHN MACGILLIVRAY, "Backside" (CIS-TV) with Eric Fleming and Clint Eastwood.

DALE DEWYMAN, "One Step Beyond" with John Newland.

WILLIAM MARSHALL, ASC, "Bachelor at Large"

ROBERT BRUNYER, ASC, "Where the Boys Are" (CScopes & Color, Karpis Prods., shooting in Fla.) with Debra Hart and George Hamilton. Henry Lewis, director.

HARVEY SMITH, "The Outlaws"

GEORGE CAMPBELL, ASC, "Twilight Zone" (Carpenter Prods.)

NICK MURRAY, ASC, "The Islanders" with William Reynolds and James Philbrook.

STEVEN THOMPSON, ASC, "Natural Velvet" (Velvet Prods.) with Lou Martin and Ann Davis.

PARAMOUNT STUDIOS

WILLIAM STYNER, ASC, "Bonanza" (NBC TV) with Michael Landon and Dan Blocker.

JOHN DOUGLASS, "The Counterfeit Tamer" (Technicolor, Perlberg-Sostan Prod.; shooting in West Berlin) with William Holden and Lily Palmer. George Seaton, director.

FRANK PHILLIPS, "Hans Gut Will Travel" with Warren Anderson and Tom Tully.

LOYAL GRACE, ASC, "The Big Bonnie Robbery" with Jay Smiley and Sherman Feltz. Perry Hopper, director.

PAUL GATLEY, ASC, "Candybrook"

PARAMOUNT JUNIOR STUDIOS

FLORY SOUTHWORTH, "Gumbies" with James Arness and Dennis Weaver.

REPUBLIC STUDIOS

EMERGE LAMAR, ASC, "The Day of the Gun" (Byersprod, shooting in Mexico) with Rock Hudson and Dorothy Malone. Robert Aldrich, director.

ROBERT KRANKER, "Romance and Jealousy" (Color; Papp Prod., shooting in Italy) with Perry Usher and Sandra Dee. Perry Usher, director.

GEORGE CHAMBER, "The Grass is Greener" (Grosser Prods., shooting in England) with Jerry Geyer and Deborah Kerr. Stanley Donen, director.

EMERY BENEFIELD, "Death Valley Days" (Flannery Prods.)

WILLIAM CLARK, ASC, "Sagronch West" (Four Star Prods.) with Wayne Rogers and Richard Kye.

MAX GRIFFIN, "The Secret Ways" (Heath Prod., shooting in Nevada) with Richard Widmark and Sope Lozanova. Phil Kerison, director.

JOSEPH LA SORIELLE, ASC, "The Fish Man" with Tony Curtis and James Franciose. Robert Munn, director.

KENNETH PEARCE, ASC, "Michael Shayne" (Four Star Prods.) with Richard Denning.

HOWARD SCHWARTZ, Ray Carlson, "Dick Powell's Zane Grey Theater" (Four Star Prods.) with Dick Powell.

BARRY WILD, ASC, KENNETH PEARCE, ASC, "Wanted, Dead or Alive" (Four Star Prods.) with Steve McQueen.

GEORGE DRISNEY, ASC, "The Law and Mr. Jones" (Four Star Prods.) with James Whitmore, "Just Before Dawn" (Four Star Prods.) with John Agajian.

BARRY WILD, ASC, "The Two Evil Shows" (Four Star Prods.) with Tom Ewell and Marilyn Monroe.

REVUE STUDIOS

JOHN RUSSELL, ASC, "The Twisted" (Revue Prods.)

FELIX TRONKLEY, ASC, ERIC HARRIS, "Tall Man" (Revue Prods.) with Barry Sobel.

JOHN J. MURPHY, "Johnny Midnight" (Revue Prods.)

RAY COLE, ASC, "Bumping Up Buddy" (Revue Prods.)

ELIAS TRONKLEY, ASC, "Johnny Midnight" (Midnight Prods.) with Edmund O'Brien.

WILLIAM SCHWARTZ, ASC, "Walls Fargo" (Overland Prods.) with Dale Robinson, Gunterrocks (Revue Prods.)

RONALD KISS, ASC, "Wagon Train" (Revue Prods.) with Ward Bond.

RAY GOODMAN, ASC, "Laramie" (Revue Prods.)

JOHN WARREN, ASC, NEAL BENEFIELD, RAY FINE, "Coronado 7" (Revue Prods.)

CHARLES WARENTON, ASC, JOHN WARREN, ASC, "Markham" (Revue Prods.) with Ray Milland.

JOHN WARREN, ASC, ERIC HARRIS, "The Deputy" (Revue Prods.) with Henry Fonda.

JOHN MACKENZIE, ASC, ERIC HARRIS, "Bachelor Father" (Bachelor Prods.) with John Forsythe.

JOHN WARREN, ASC, "General Electric Theater" (Revue Prods.)

NEAL BENEFIELD, "Whispering Smith" (Revue Prods.)

BLACK STEINGARD, ASC, "Lovers in to Rome" (Goulden Prod.) with Barbara Belandier and Ralph Beaumont Norman Taylor, director

JACK MCKENNEY, ASC, "Checkmate" (J. M. Prods.) with Anthony George

GEORGE WARDENBERG, ASC, "Commercials"

NAL BROAD STUDIOS

FRED WOOD, ASC, "The Great Challenge" (Religious Film, Cathedral Films) Jan Saplida, director

SWIFT CHAPTER

FRED WOOD, ASC, "Commercials"

TWENTIETH CENTURY-FOX

WILLIAM MELLON, ASC, "The Big Gamble" (C-Scope & Color; Darryl Zanuck Prods. shooting in Europe) with Stephen Boyd and Jeanne Crain Richard Fleischer, director

LEO TUCKER, ASC, "Marriage-God-Bless" (C-Scope & Deluxe color) with Susan Hayward and James Mason Walter Lang, director

CHARLES CLARKE, ASC, "Black Sea" (C-Scope Prods. C-Scope & Deluxe color) with Elton Frendley and Deborah Del Rio Don Siegel, director

ARTHUR ARLING, ASC, "The School" (C-Scope & Color) with Tommy Noonan and Barbara Eden Charles Fenton, director

ELANWORTH FRIDMANN, ASC, "Secretary" (C-Scope, Darryl F. Zanuck Prods.) with Lee Remick and Yves Montand Tony Rich, director

ELIAS CARTER, ASC, "Winged of Raphael" (C-Scope & Color; Clover Prods.) with Dick Shonta and Anne Baker George Sherman, director

KAY NORTON, "Secret of the Purple Reef" (AP, C-Scope shooting in the Caribbean) with Jeff Richards and Morgan Ussie William Whitney, director

PURVIS LEVISON, ASC, "Hong Kong" with Rod Taylor and Lloyd Bochner

LYON ARBER, ASC, "Adventures in Paradise" with Gaudier McKay and Warren Levy

WARNER BROS. STUDIOS

JACK CANEY, "Penny" (Mansfield Prods. shooting in Hawaii) with Leslie Caron and Maurice Chevalier Joshua Logan, director

BARNEY STEINGARD, ASC, "Perish" (Shed Inc. at Hartford, Conn.) with Troy Donahue and Chadam Colbert Delany Davis, director

ERWIN DUFFAY, ASC, "Havoc Eye" with Anthony Quayle

FREDERICK MARLEY, ASC, "A Foot in the Door" with Elton Soudan and Angie Dickinson Vincent Sherman, director

JOE BIRCH, ASC, "Gold of the Seven Seas" (shooting in Maui, Utah) with Clint Walker and Roger Moore Gordon Douglas, director

BAILEY WOLFE, ASC, "Bravo" with Ty Hardin

HAROLD STINE, ASC, "Sunrise 6" with Troy Donahue and Diana McBain

RAY FRANKLIN, ASC, "Born Glorious, 'Lovers'" with John Russell

REUBEN HARTMAN, "Significant" with W.B. Huichan

RAY FRANKLIN, ASC, "Romantic Woman, 'Rising Tension'" with Rex Brown

TERESA TETWEL, ASC, "Commercials"

ARTHUR FEINBERG, ASC, "Commercials" *

CAMART PRODUCTS

OPTICAL FX UNIT
AND PRISMS

*You've got to see it
to believe it!*

FOR 16mm-35mm-TV CAMERAS
LIVE TV, ANIMATION,
MOTION PICTURES



Illustration on request

From two to seven images or combinations, more than 27 variations in optical effects, montages, and distortions without expensive materials

Images may be photographed on still motion or live and reverse rotation

Complete unit consists of a four or five piece, mount, viewing housing, and remote cable assembly.

THE CAMERA • MART INC.

1845 BRADSHAW ST. APT. 21 Phone: PLaza 7-6677
NEW YORK 21, N. Y. Cable Address: CAMARTART

Used World-Wide By Discriminating Cameramen CINEKAD SYNCHRONOUS MOTOR DRIVE—For 16mm Projectors



One-year Guaranteed Immediate Delivery!

CINEKAD ENGINEERING COMPANY,

Especially designed to drive all Bell & Howell, Jax, Anapro, Kodak, RCA, and Victor 16mm projectors at synchronous speed.

Projector can be instantly attached to Synchronous Motor Drive and quickly detached at any time in a matter of seconds. An outstanding feature is the flexible shaft which connects motor with projector and permits removal, repair and steady operation. No special technical knowledge required for installation and mounting. Write for more details and prices.

763 16th Ave., N.Y., N.Y., Phone 7-3511

MODERNIZE YOUR OLD MODEL "D" or "C" MILLER FLUID HEAD

\$14.95

If you bought your head before Jan. 1957 you can have it brought up to date by having expensive parts and new electrical fittings replaced. For a limited time only, we will build your head on the latest specific plans for only \$14.95.

Authorized Factory Service

MILLER PROFESSIONAL
EQUIPMENT

365 Holcombe Avenue Astoria, Oregon

HOUSTON FEARLESS

PANORAM DOLLIES

Thoroughly Overhauled—
Guaranteed

SPECIAL LOW PRICE:

Immediate 4-Wheel — \$1,400.00
Delivery 5-Wheel — \$1,600.00

CAMERON EQUIPMENT CO., INC.
815 West 42nd Street, New York 26, N. Y.
Phone 4-1026

ONE-CEL ANIMATION

Continued from Page 372

tions of the same technique which are exploited in the captions of each.

This technique of accomplishing complex animation, using but a single cel, is based on the "strobe" principle of replacing one bit with another. The method will 1) save considerable amount of art work, 2) eliminate the troublesome on-changing routine of conventional animation, requiring only a simple passing pattern of pre-determined dimensions, and 3) in many cases it will allow a measure of flexibility in animation seldom possible by the conventional multi-cel method. *

TV COMMERCIALS

Continued from Page 355

to the California stations awaiting them.

Friday: The taped commercials went on the air.

The total elapsed time, from moment of the ad agency's approval to completion of the tapes, was five days.

The chief advantage of this film-to-tape procedure, according to Tom Countryman, is that it enables a producer of TV film commercials to meet "rush" order requirements by eliminating time delays often caused by unloading for laboratory bottlenecks. The video tape transfer, including time for rehearsals, consumed less than an hour. An added advantage was the TV station's electronic special effects board, which permitted the few effects required to be made during the transfer process. *

Celer Film Stability

Although many improvements in the stability of dyes have been made in the Kodachrome process since it was first introduced, some additional precautions should be observed, according to Eastman Kodak Company.

All dyes are fugitive to some extent and change in time, heat, moisture, and light are three important factors which affect permanence of dyes. For maximum permanence, processed color films should therefore be stored where it is dry, dark and cool. High relative humidity can cause color change in Kodachrome pictures.

Literature

BOOKLETS • CATALOGS • BROCHURES

Labmaster Brochure

A four-page two-color illustrated brochure is available from Houston-Fortress Corp., 11805 West Olympic Blvd., Los Angeles 64, Calif., which describes the company's line of Labmaster motion picture film processing equipment. Equipment consists of three basic models: Neg./Pos., 16mm or 16/35; Reversal Model, 16mm only; and the Microfilm Model, 16mm or 16/35mm. Make request on your company letterhead.

57 Lenses Listed

An illustrated, four-page "Lens Selector" folder describing over 57 different lenses available to motion picture camera users is available from Triml Corporation, 17136 Ventura Blvd., Encino, Calif.

Covering a wide range of wide-angle, normal, long focal length, and zoom lenses for 16mm and 35mm cameras, the folder also includes information on lenses for 70mm and prism cameras, so that the selection of a lens for a particular requirement is easy.

The Lens Selector is available free of charge.

Animation Booklet

A by-product of the recent Anima-

tion Film Seminar & Workshop presented by Florman & Balch, Inc., is the publication in booklet form of some of the most important talks and discussions presented during the seminar.

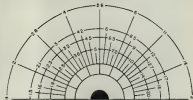
The first booklet, which is now available, covers address given by Peter H. Cooper of Robert Lawrence Animation, Inc., on subject of "The Creative Problems in Animation Film Commercials." The six-page booklet is available free by writing Charles Lapow, Florman & Balch, Inc., 60 West 45th St., New York 36, N.Y.

Booklet On Film Care

Now available from the Sales Service Division, Eastman Kodak Co., Rochester 4, New York, is the company's 12-page booklet, "The Handling, Repair, and Storage of 16mm Films," which has been extensively revised and brought up to date. Of interest to both industrial photographers and amateur movie makers, the booklet covers such topics as: causes of 16mm film damage; suggestions for promoting long film life; cleaning and lubricating film; splicing, and storage.

Copies are free by writing company at above address. Specify Kodak pamphlet No. D-23. *

LENS STOP CALCULATOR



THE SCALE DIAGRAM above shows at a glance where to set lens to increase or decrease exposure $\frac{1}{2}$, $\frac{1}{3}$, $\frac{2}{3}$ or 1 stop when using filters or shooting above or below normal camera speed. Each line of same length represents one full stop, viz.: f/1.4 to f/2 (longest lines); f/1.5 to f/2.1 as next group; f/1.6 to f/2.3 in next group, etc.

This lens stop calculator is just one of the many helpful charts and tables which appear in the forthcoming *American Cinematographer Manual* published by the American Society of Cinematographers, Hollywood.

A NATIONAL INSTITUTION

W. J. GERMAN, Inc.

BIGGEST AND OLDEST AGENCY FOR

Sales And Distribution

**EASTMAN PROFESSIONAL
MOTION PICTURE FILMS**

Negatives Positives

Color Black - And - White

Prompt Service — Everywhere

**Fort Lee,
New Jersey**

**Chicago,
Illinois**

**Hollywood,
California**

**IF you are a
quantity buyer
of color prints....**

*let us show you how
you can save over \$2500
on 100 prints of a
full-length 2-reel show!*

Write, phone or wire for a free estimate
—it costs you nothing to find out—you may
save over \$2500 on your next print order!

byron *motion pictures*

1226 Wisconsin Ave., N.W., WASHINGTON 7, D.C.

▶ FE 3-4000

1226 East Colonial Drive, ORLANDO, FLORIDA

▶ CH 1-4161

PROVIDING EVERY EDITORIAL AND PROCESSING FACILITY FOR 16mm FILM PRODUCERS